4. RiverPro Operations

This chapter explains the operations of RiverPro. The screens on the following pages are used in the operation of the RiverPro component of the WHFS. Each figure is annotated and is self-explanatory. Where appropriate, a source screen(s) is provided in the background as a reference.

RiverPro Notes

RiverPro provides the forecaster with a series of default products which can be viewed, edited and issued based on the current hydrologic situation. In addition, RiverPro gives the forecaster the capability to develop specific products which can be saved for future use and then viewed, edited and issued when needed. For either the default or specific products, their issuance is dependent on the **current** hydrologic situation (observed and/or maximum forecast) and the availability of up-to-date data for the appropriate collection stations.

The format and content of RiverPro products can be edited using the **Edit** and **Modify** Options which can be accessed through the **RiverPro Root Window** (see RiverPro Operational and Functional Guides).

Upon initialization of the program, RiverPro computes recommendations after extracting observed and forecast stage data. While the program is running, new data may have arrived that were not considered in the recommendations. To ensure that recommendations are based on current data, the **Recompute** Option should be used periodically while logged in to RiverPro (see RiverPro Functional Guide).

RiverPro provides the option of issuing a product immediately after creating/editing the product. Care must be taken not to overwrite the existing product when saving a file (only one product can be saved).

RiverPro assumes that Terminating Flood Statement (FLS) products will be issued when appropriate. If a Flood Warning (FLW) or an FLS is not formally terminated for all forecast points with the issuance of a Terminating FLS, subsequent RiverPro recommendations may reference a Terminating FLS even though the forecast point is no longer in flood or the original event occurred so long ago that a Terminating FLS is no longer meaningful. To ensure that a misleading product is not recommended, the **Clear Terminating FLS** Option should be used when needed (see RiverPro Functional Guide).

RiverPro not only recommends which product to issue and which forecast points to include, it also recommends the expiration data and time and issuance number for the product. For FLW and FLS products, the default expiration time is 12 hours from issuance. For an RVS, the default expiration time is 24 hours from issuance. Each time a product is issued for the same hydrologic event, the issuance number automatically increases by one. When RiverPro issues a Terminating FLS, the issuance number reverts to zero. The expiration date and time and the issuance number can be changed by using the **Product Header Settings** Option (see RiverPro Functional Guide).

RiverPro Notes (con't)

RiverPro analyzes maximum forecast and observed data then determines derived values from stage time series data. Using this derived information, RiverPro automatically determines the recommended product to issue and the recommended forecast points to include.

Some screens in RiverPro reference various data codes for some parameters. These codes are as referenced in ***S**tandard **H**ydrometeorological **E**xchange **F**ormat*, *Weather Service Hydrology Handbook No. 1*.

This manual addresses the basic functions of RiverPro. Other functional aspects of RiverPro such as creating and modifying templates (including default templates) are detailed in the *RiverPro Reference Manual* in Appendix B. RiverPro template formats have many different features available such as data types and values used (e.g., variable maximum or minimum) and stations to list (forecast and non-forecast stations).

RiverPro creates river products that are constructed and formatted properly for the auto-voice **NOAA Weather Radio (NWR)**. Users can set up templates for **NWR** products and **non-NWR** products separately.

RiverPro provides the capability to generate four default products (for both NWR and non-NWR products) - River Statement (RVS), Flood Statement (FLS), Terminating Flood Statement (FLS) and Flood Warning (FLW). Each product is comprised of a series of sections and subsections which display various data and information, dependent on the product and selected forecast points. The sections and subsections in the default products are as follows.

- Product Header
- Summary of Groups
- Hydromet Basis
- Tabular
- Call-to-Action
- Forecast Point Info
  - Data Roundup
  - Impact Statement
  - Crest Comparison

RiverPro default products each have a defined format and content which can be edited if needed. Not all sections and subsections are provided in each default product. The following table defines the different product sections and subsections and shows the format of each product.

RiverPro Product Formats		**Section/Subsection Included in RiverPro Default Product Type**							
Product Section/Subsection	**Section/Subsection Definition**	**RVS**		**FLS**		**Term. FLS**		**FLW**	
		non-NWR	**NWR**	**non-NWR**	**NWR**	**non-NWR**	**NWR**	**non-NWR**	**NWR**
Product Header	Product header information (e.g., Universal Generic Code [UGC], issuing office identifiers, product type identifier, product issuance number, expiration date and time, issuance date and time)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Summary of Groups	A narrative that briefly summarizes the hydrologic conditions on the river basins for the included groups of forecast points and/or defines the forecast points within the river groups	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Hydromet Basis	A narrative that describes the hydrometeorological basis for the current situation. Typically, this discussion is manually entered. (Default products provide a prompt to enter this information)	No	No	Yes	No	Yes	No	Yes	No
Tabular	A tabular list of included river groups and forecast points along with flood stage reference, observed stage (and date and time) and 3-day stage forecast	Yes	No	Yes	No	Yes	No	Yes	No
Call-to-Action	Statements that describe the general precautionary actions the public should take in a flood situation. Five templates are available and each product type has different default template(s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data Roundup	A narrative summary of the observed and forecast river stage conditions referencing impacted rivers and forecast points	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

RiverPro Product Formats		**Section/Subsection Included in RiverPro Default Product Type**							
Product Section/Subsection	**Section/Subsection Definition**	**RVS**		**FLS**		**Term. FLS**		**FLW**	
		non-NWR	**NWR**	**non-NWR**	**NWR**	**non-NWR**	**NWR**	**non-NWR**	**NWR**
Impact Statement	A description of potential flood impacts based on the hydrologic situation (specific areas affected and probable impact of the flood)	No	No	Yes	No	No	No	Yes	No
Crest Comparison	A comparison of observed or forecast floods to historical floods	No	No	Yes	No	No	No	Yes	No

Troubleshooting RiverPro

Some of the errors associated with the use of RiverPro will be displayed in a pop-up window or through an error dialog shown on the screen. The application then continues. For most RiverPro errors, the Product Issuance Log and Message Log windows may indicate the source of the problem. The RiverPro Reference Manual (Appendix B) can also be used to evaluate RiverPro errors.

Getting Started

Method One

1) From the workstation D2D screen, locate the mouse pointer on a dead area (no windows displayed) and single click the right mouse button. The **System Control Menu** will be displayed.

2) Click left mouse button on **Hydro Apps**, the **Hydrologic Applications Menu** will be displayed.

3) Click left mouse button on **RiverPro** in the **Hydrologic Applications Menu**, the **RiverPro Root Window** will be displayed.

Method Two

1) From the D2D display, click on **Surface** on the Menu Bar.

2) Click left mouse button on **Hydro Apps**, a menu will be displayed.

3) Click left mouse button on **RiverPro**, the **RiverPro Root Window** will be displayed.

RiverPro Windows

The following pages present the various windows used in the operation of RiverPro. A list of these windows is provided below.

RiverPro Windows

Window	Use	Page
RiverPro Root Window	Starting point to access all operations within RiverPro	4-9
Create Option (Text Editor) Window	Create and edit a product	4-11
Select Forecast Points to Include Window	Select forecast groups and points to include in the product	4-13
Settings Option Window	Modify existing product generation settings (initial window for modifying settings)	4-18
Product Header Settings Window	Modify existing product generation settings for the product header	4-19
Summary Section Settings Window	Modify existing product generation settings (prologue, summary text) for the river forecast groups	4-20
Hydromet Basis Section Settings Window	Modify existing product generation settings for the basis section of the product	4-21
Tabular Section Settings Window	Modify existing product generation settings for the tabular section of the product	4-22
Call-to-Action Section Settings Window	Modify existing product generation settings for the call-to-action section of the product	4-23
Data Roundup Subsection Settings Window	Modify existing product generation settings for the data roundup subsection (part of Forecast Point Info) of the product	4-24
Impact Statement Subsection Settings Window	Modify existing product generation settings for the impact statement subsection (part of Forecast Point Info) of the product	4-25
Crest Comparison Subsection Settings Window	Modify existing product generation settings for the crest comparison subsection (part of Forecast Point Info) of the product	4-26
Save Product Settings Window	Save a new product section/subsection definitions set for future use	4-27

RiverPro Windows

Window	Use	Page
Stage/Discharge Information Window	View current observed, forecast and threshold (E-19) stage data for a selected point	4-29
Recommendation/Previous Product Information Window	View RiverPro recommended products, forecast points for various products, recommendation rationale, update recommendations, list previous products and clear a terminating flood statement	4-30
Reference Information Window	View previously issued products for content or for comparison to products to be issued	4-31
RiverPro Product Log Window	View a listing of previously issued products generated by RiverPro	4-33
Message Log Window	View the general status information (indicating specific steps of the current RiverPro execution) as well as messages in the Product Issuance Log	4-34
Product Issuance Log Window	View the status messages generated by the issuance of products including warning messages that indicate possible detrimental and unrecoverable errors	4-35

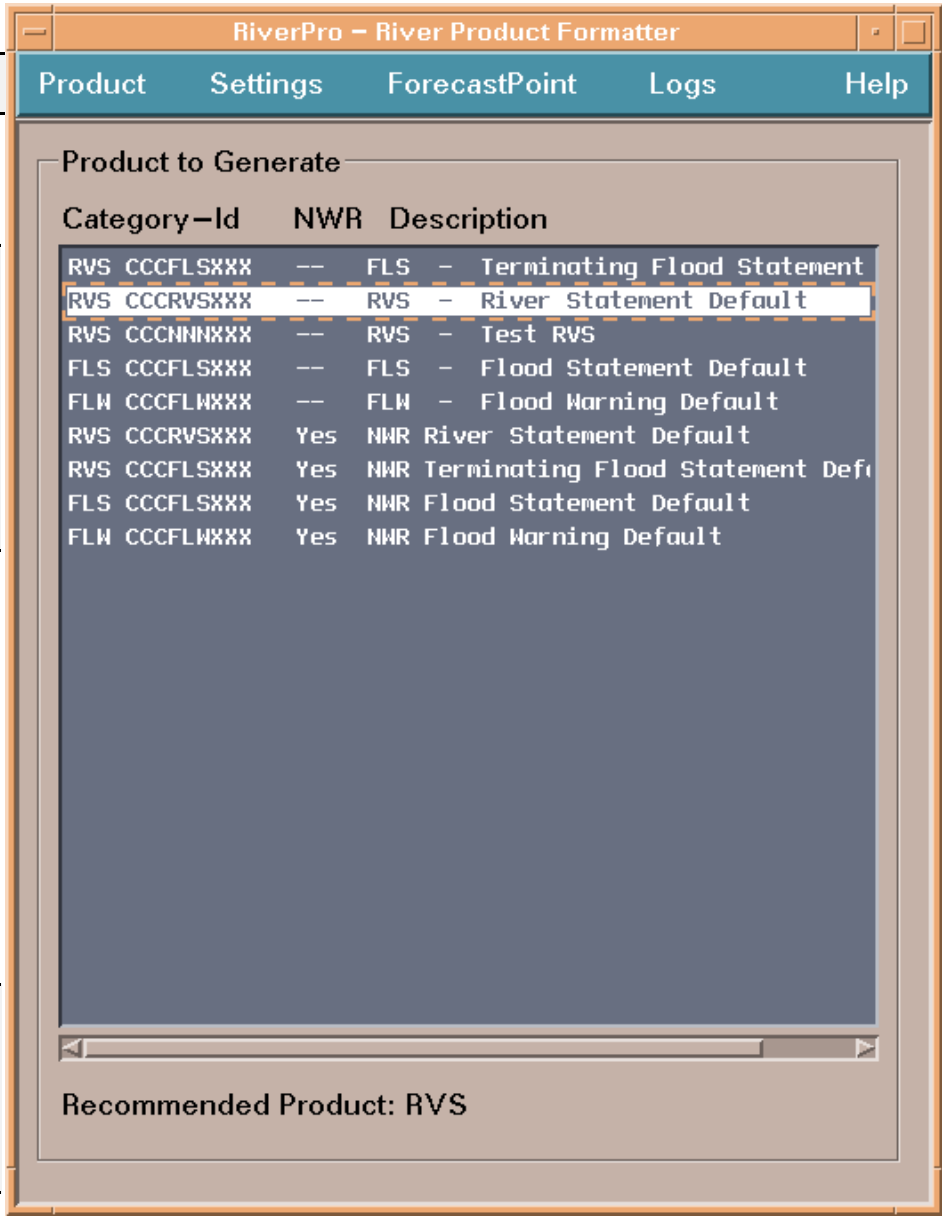
RiverPro Root Window - Starting point to access all operations within RiverPro, to define products to issue, and to select river groups and points to be contained in a product.

Menu Bar

The RiverPro recommended product type will be highlighted. A user-defined product can also be generated by *Clicking* on the desired product type.

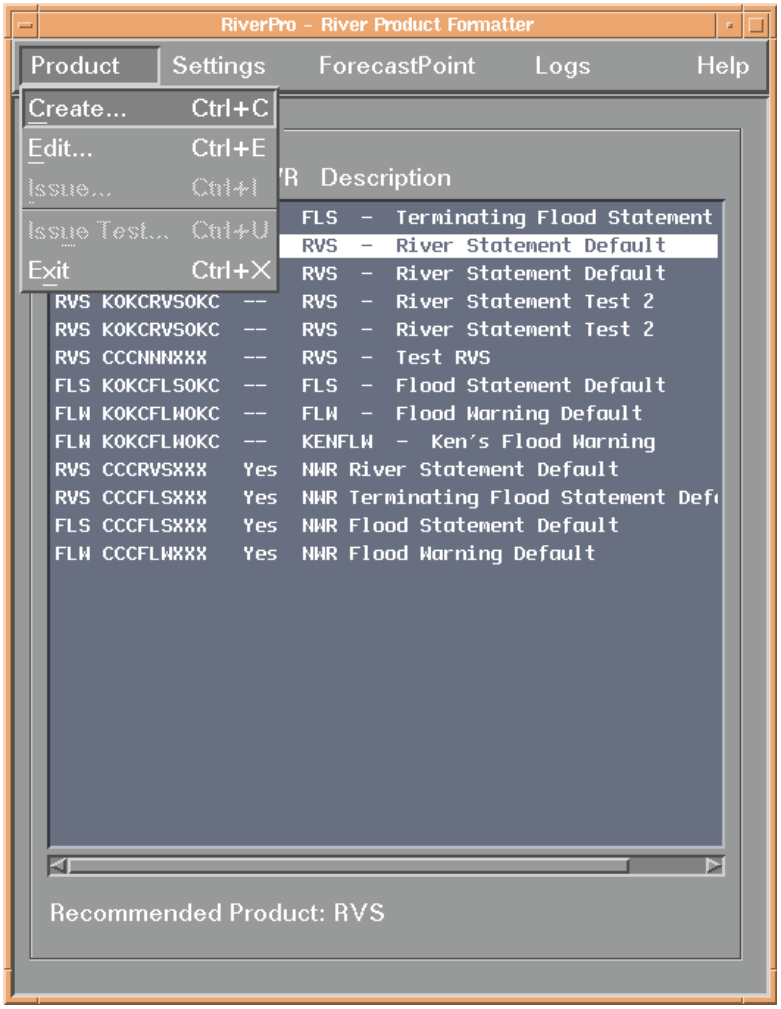
NWR refers to NOAA Weather Radio auto-voice products.

RiverPro recommended product type. Go to ***Settings***, ***Select forecast points to include*** for a display of recommended forecast points to include in the product.



Notes: **S**eparate templates can be set up for NOAA Weather Radio (NWR) and non-NWR products.

RiverPro Root Window (Product selected from the Menu Bar) - Use this selection to create, edit and issue products.



Access this selection from the **Root Window** by *Clicking* on **Product**.

Notes:

Use **Create** to create a product for the product type and River Group/Points selected in the **RiverPro Client Window** and the product generation settings selected through the **Settings** option (discussed later). The RiverPro recommended options can be used to create a product or the product can be manually edited.

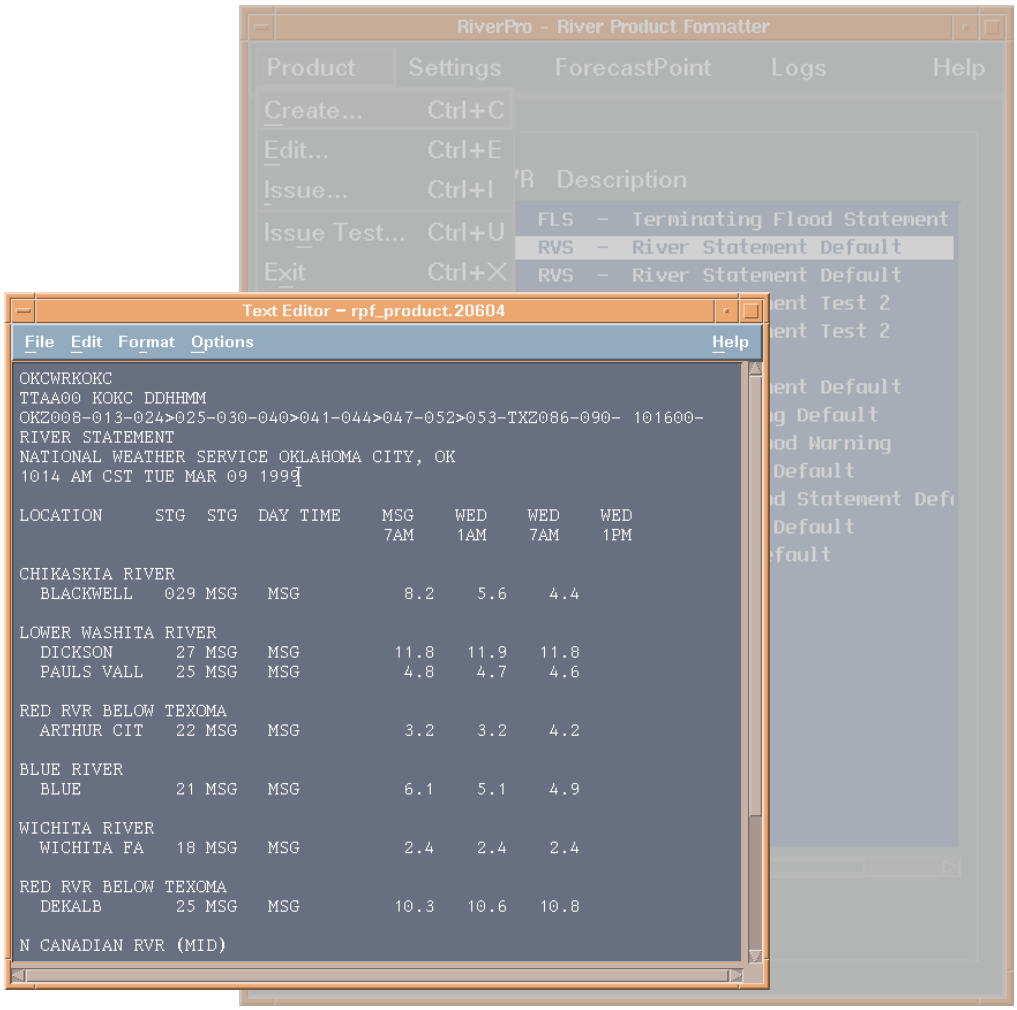
Use **Edit** to review and edit previously created products.

Use **Issue** to send the most recently created product through the NWS communication system.

Use **Issue Test** to write the most recently created product into a different database on the local AWIPS system for review.

Use **Exit** to exit from the RiverPro session.

Create Option - Use this selection to create (and edit) a product listed in the **Product to Generate** portion of the **RiverPro Root Window** Text Display.



Access this selection from the **Root Window** by *Clicking* on **Product** then on **Create**.

Notes:

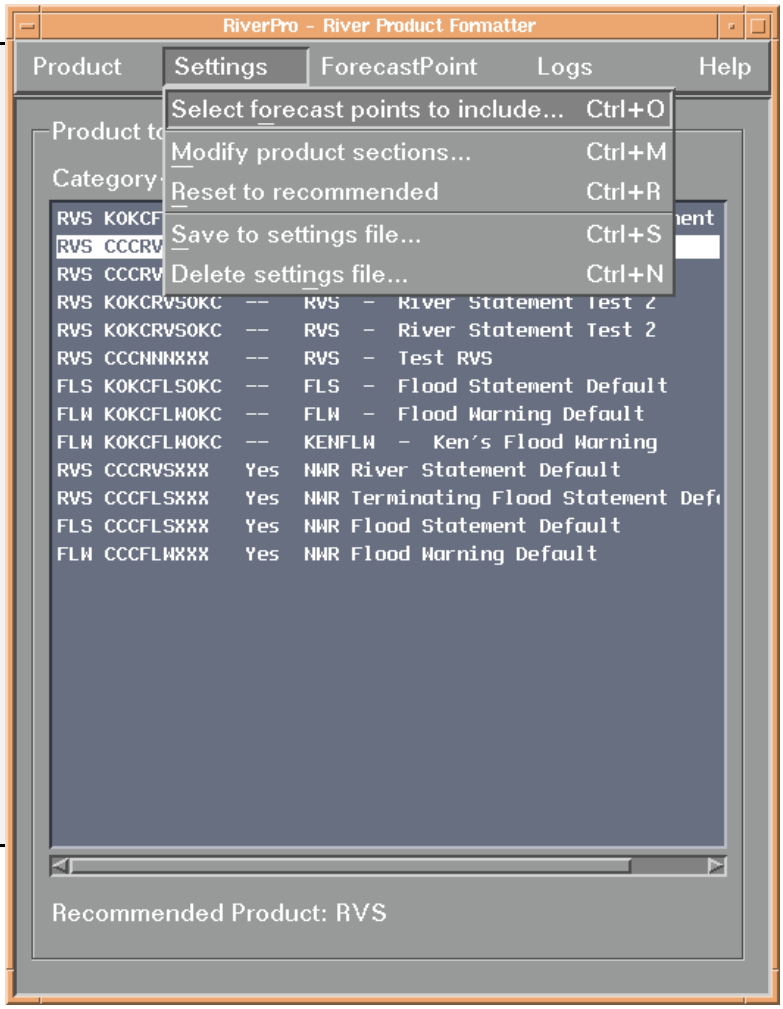
Shown is a default product displayed in the text editor for a RIVER STATEMENT with RiverPro recommendations.

Once **Create** is selected, a screen will display, similar to the above. This product is generated based on the product and the recommended river groups/points (or manually selected) and parametric settings selected in the **Settings Windows** (discussed later).

The product can be fully edited and saved (by overwriting the existing file or as a new file) using the File, Edit, Format, and Options menus. The saved file can then be re-edited and issued in the future.

RiverPro Root Window (Settings selected from the Menu Bar) - Use this selection to modify existing product generation settings for a product listed in the **Product to Generate** portion of the **RiverPro Root Window** Text Display. The product generation settings dictate the format and content of the product.

Use **Select forecast points to include** to select forecast groups and points to include in the product. Use **Modify product sections** to display various screens to change product generation settings. Use **Reset to recommended** to return all modified settings, products and river groups/points to the RiverPro recommended values (also occurs automatically upon exiting the RiverPro session. Use **Save to settings file** to save any modifications as a new product. (The new product will then be listed in the **Product to Generate** portion of the **RiverPro Root Window** Text Display for easy reference for future use.) Use **Delete settings file** to delete the selected product.



Access this selection from the **Root Window** by *Clicking* on **Settings**.

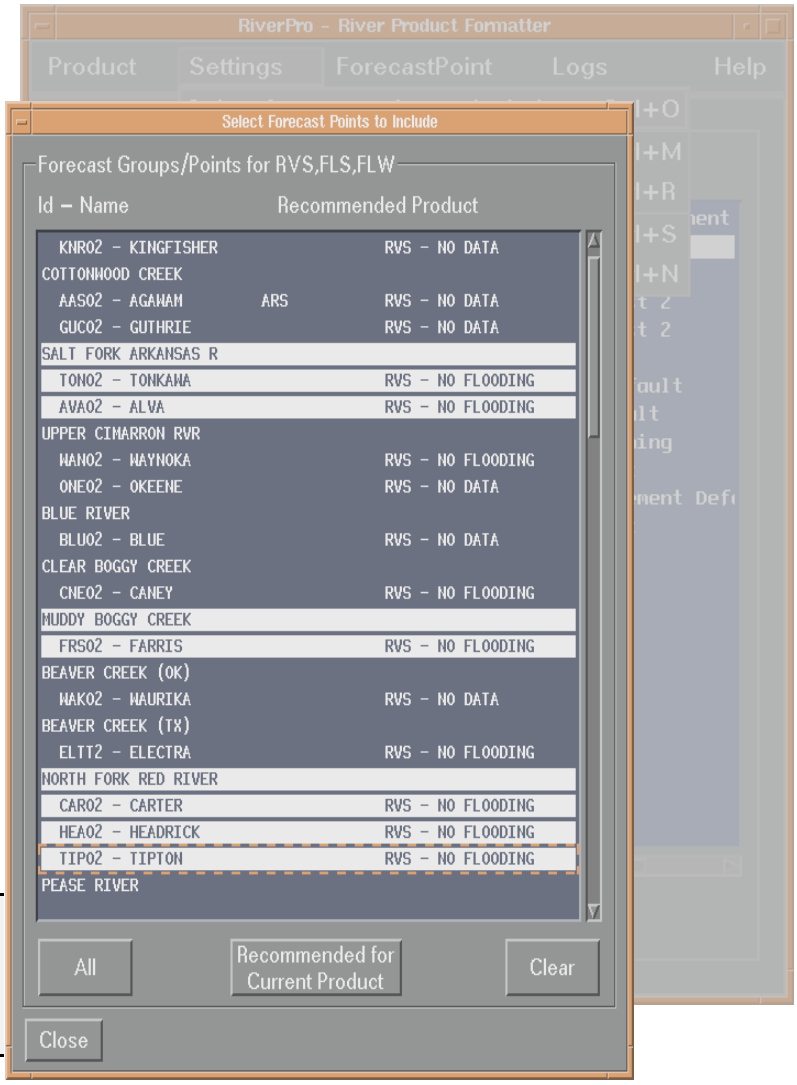
Notes: Default products cannot be deleted using the **Delete settings file option**.

Select Forecast Points to Include Window - Use this selection to select the forecast groups and points to include in the chosen product.

Click on River Groups or Points to include in the selected product.

By *Clicking* **Recommended for Current Product** (bottom of display), RiverPro River Group and Point recommendations for the currently selected product will be highlighted

Click **All** to select all River Groups/Points
Click **Recommended for Current Product** to have RiverPro select River Groups/Points for selected product.
Click **Clear** to clear selections



Access this selection from the **Root Window** by *Clicking* on **Settings**, **Select forecast points to include.**

Notes:

RiverPro recommended River Groups and Points are selected based on up-to-date data only (there are no default groups and points for a given product, including River Statements; default groups and points can be defined by customizing the product generation settings).

The display of forecast groups and forecast points with the groups can be ordered in HydroBase. The order of forecast groups and forecast points within the groups can be set and that order is then shown in the RiverPro display and can be used for the ordering of points and groups in the generated products.

The primary stage parameter for each forecast point [e.g., river stage (HG), lake elevation (HL)] can also be set in HydroBase.

RiverPro Settings Options - Modify Product Sections

The **Settings** selection - **Modify product sections** option, shown in the following nine screens, allows the forecaster to change the section/subsection settings that control the format and content of the products generated by RiverPro. These modified settings can then be saved for future use, if desired, using the **Save to settings file** option under **Settings**. Various specialized products can be designed and saved and used as needed along with the RiverPro default products. Optimally, the specialized products would be set up after the WHFS is first installed with little need to further use the **Modify product sections** option.

Selection of the **Modify product sections** option provides a series of screens for viewing and changing the various section/subsection settings, including the selection of default templates to be displayed in the product. The **Modify product sections** option also can be used to change the order in which the sections/subsections appear in the product. Most templates cannot be edited in **Modify product sections**, only viewed and selected for use. However, the text of the selected template(s) can be edited through **Create** or **Edit** using **Product** in the **Menu Bar**.

Before using the **Modify product sections** option, a product must be identified in the **Product to Generate** portion of the **RiverPro Root Window** Text Display. River Groups/Points must also have been selected by using the **Recommended for Current Product** option (RiverPro recommendations for the selected product) or by manual selection.

Brief descriptions of the product generation settings that can be changed using the **Modify product sections** option are shown in the following table. Product sections/subsections were defined previously in this manual. Screens for each product section/subsection are shown following the table.

Modify Settings Options

Product Section/Subsection	Modify Option Function
Product Header	View and select the header template (as with all templates, displayed header template itself is read only, no edits permitted). Edit the product expiration date and time and product issuance number.
Summary of Groups (River Forecast Groups)	View and select the default templates for Prologue and Body of Summary Section. Apply a Summary Section template to selected river forecast groups.
Hydromet Basis	View default templates for displaying reminder to insert the hydrometeorological basis for the current situation in the product or for displaying general text for the basis section. Select default message template (actual basis will have to be inserted manually in the product using the text editor through **Create** or **Edit** under **Product** on the **Menu Bar**).

Modify Settings Options

Product Section/Subsection	Modify Option Function
Tabular	View default templates for displaying observed and maximum forecast stage data. Select templates to use and select which River Forecast Points to include in the tabular section of the product.
Call-to-Action	View and select default call-to-action templates to include in the product.
Data Roundup	View and select default data roundup templates to include in the product.
Impact Statement	View and select impact statement(s) to be displayed in the product. RiverPro provides a series of default impact statements which can be issued based on the observed or forecast hydrologic situation. The Impact Statement Window has a variety of options available to modify the impact statement. The window allows the editing of parameters that determine the recommended impact statements displayed in the product. Once the parameters are edited, the recommended impact statements will be recomputed. The impact statement for a given forecast point is included only if RiverPro is able to find an impact statement within the range of the designated search parameters. These parameters include the Stage Window, Maximum Depth Below Flood Stage, and Search Type. The limits of the Stage Window are defined as an offset from the Reference Stage. (The Reference Stage can either be the current observed stage, the maximum forecast stage or the maximum of both and can be selected by the user with a pull-down menu in the Impact Statement window.) The Stage Window is selected with sliders in the Impact Statement window. The impact statement is also screened based on the Maximum Depth Below Flood Stage. This prevents using impact statements for very low stages but still allows for a statement for locations impacted by stages below flood stage such as recreation areas. (Continued on the next page.)

Modify Settings Options

Product Section/Subsection	Modify Option Function
Impact Statement (con't)	The Maximum Depth Below Flood Stage and the Stage Window settings must be met to define a statement. Two impact statement Search Types are available - Closest in Stage Window and Highest in Stage Window. Closest in Stage Window provides the impact statement closest to the reference stage and still within the Stage Window while Highest in Stage Window provides the highest impact statement within the stage window. Impact statements are also screened on the basis of seasonal requirements. Each impact statement has an associated season of the year for which it applies. The seasonal requirement is set in HydroBase and can be viewed in HydroView (Impact Statement Window) or in HydroBase. If the current day of the year does not fall within the season defined for the impact statement, the statement is not considered for display in the product.

Modify Settings Options

Product Section/Subsection	Modify Option Function
Crest Comparison	View and select comparisons to historical floods to be displayed in the product. RiverPro provides a series of default comparison statements which can be issued based on the observed or forecast hydrologic situation. The Crest Comparison Window has a variety of options available to modify the comparison statement. The window allows the editing of parameters that determine the recommended comparison statements displayed in the product. Once the parameters are edited, the recommended historical flood statements will be recomputed. The historical flood comparison statement for a given forecast point is included only if RiverPro is able to find an historical crest and date within the range of the designated search parameters. These parameters include the Stage Window, Maximum Depth Below Flood Stage, Year Lookback and Search Type. The limits of the Stage Window are defined as an offset from the Reference Stage. (The Reference Stage can either be the current observed stage, the maximum forecast stage or the maximum of both and can be selected by the user with a pull-down menu in the Crest Comparison window.) The Stage Window is selected with sliders in the Crest Comparison window. The historical flood comparison statement is also screened based on the Maximum Depth Below Flood Stage. This prevents using comparison statements for very low stages. The Year Lookback setting is the number of years to review before the current year. Five comparison statement Search Types are available - Recent in Stage, Year Window; Closest in Stage, Year Window; Recent in Stage Window; Closest in Stage Window; and Highest in Stage Window. For example, to obtain the historical crest that lies within both the stage and year offsets - choose Recent in Stage, Year Window; to select the crest which is only within the stage window - choose Recent in Stage Window.

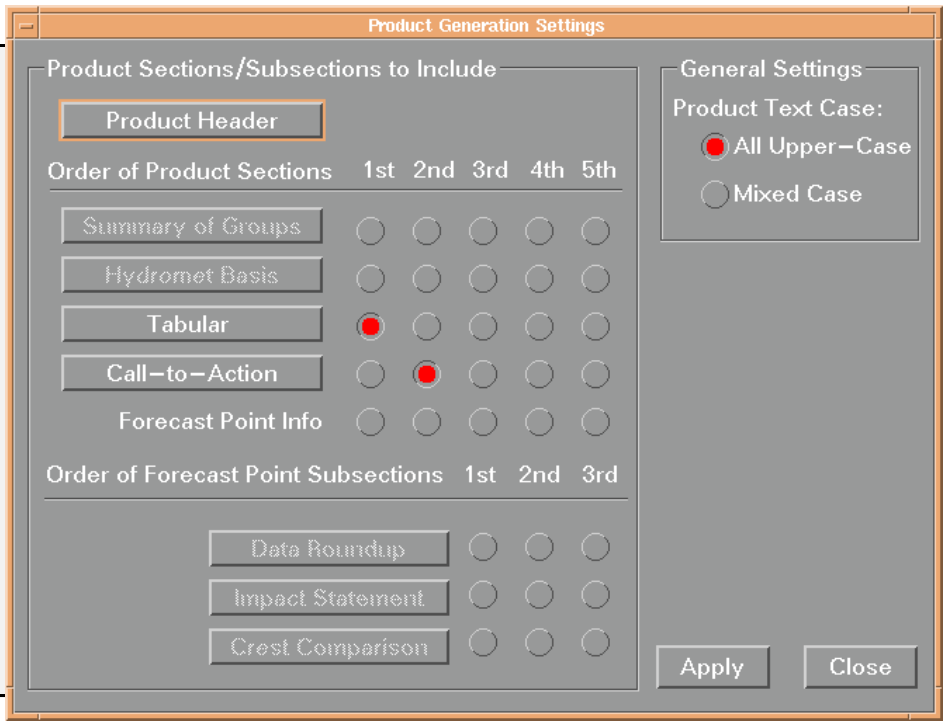
Settings Option Window (Modify Product Sections Initial Screen) - Use this selection to modify existing product generation settings for default products and to develop new products. The product generation settings dictate the format and content of the product.

Click on text buttons to access screens to modify the selected setting

Click on 1st, 2nd, 3rd... buttons to arrange order of appearance of product sections and subsections

To display a section or subsection in the product, toggle on associated 1st, 2nd, 3rd... buttons

Select order for subsections only if Forecast Point Info is selected above



Click Apply to incorporate changes (window stays open)
Click Close to close the window (doesn't save changes - use Apply prior to Close to keep the changes)

Access this selection from the **Root Window** by *Clicking* on **Settings** then on **Modify product sections.**

Notes:

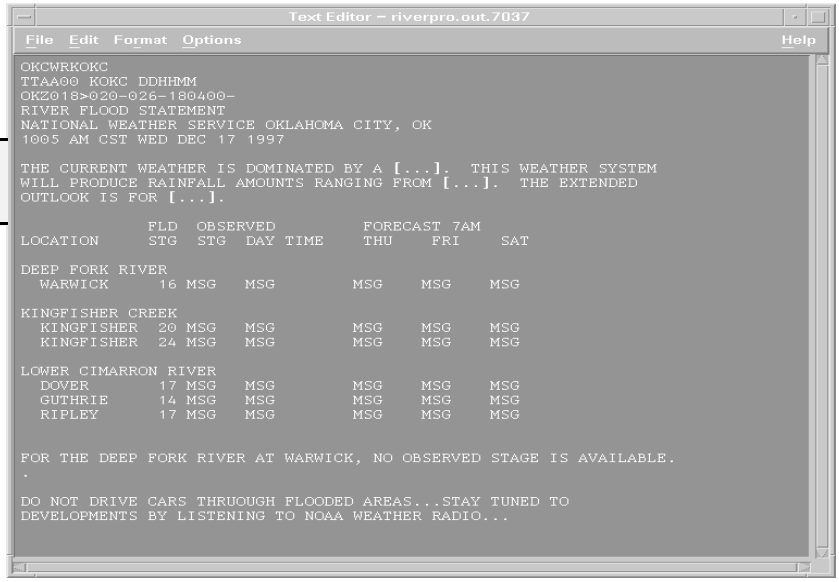
This is the initial screen used for modifying product generation settings. From this screen, additional screens can be accessed to make changes to settings such as Product Headers and Call-to-Action statements. This screen can also be used to change the order in which the various sections and subsections appear in the product.

Not all settings can be modified for each product. Those settings which cannot be modified will be greyed-out on the screen or not displayed.

ALL CHANGES MADE THROUGH *MODIFY PRODUCT SETTINGS* APPLY ONLY TO THE CURRENT RIVERPRO SESSION. UNLESS THE *SAVE TO SETTINGS FILE* OPTION IS USED, ALL CHANGED SETTINGS WILL BE LOST, AS RIVERPRO REVERTS TO THE DEFAULT SETTINGS EACH TIME THE APPLICATION IS STARTED.

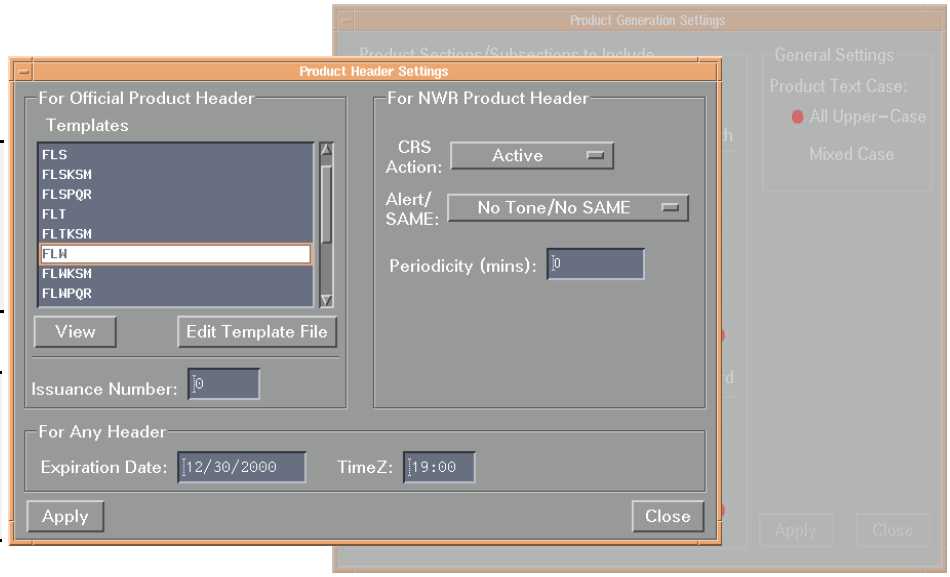
Product Header Settings Window - Use this selection to modify existing product generation settings for the product header.

Example Product Header



Product Header templates can be viewed using the View option or edited using the Edit Template File option

Expiration date and time and issuance number can be modified. Expiration dates in the past cannot be entered.



Access this selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections, Product Header.**

Notes:

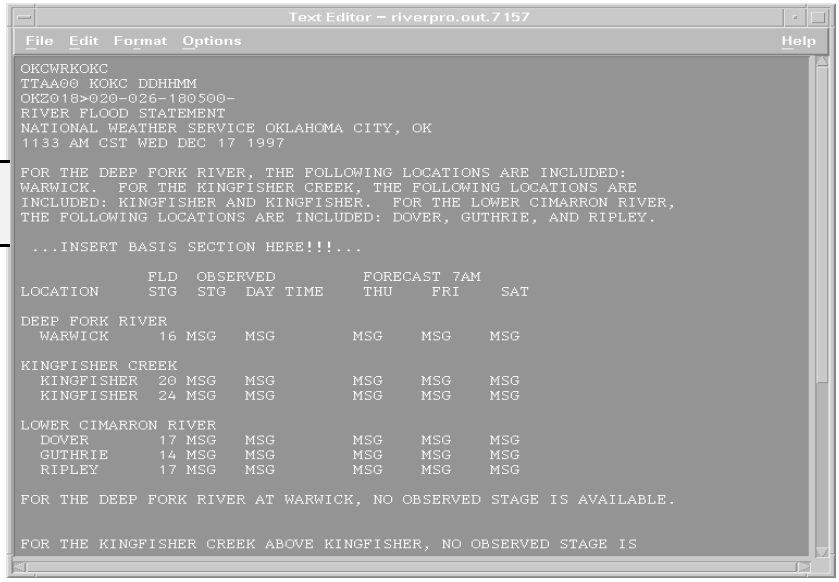
An example product is shown at the top, the Product Header Window at the bottom.

After making any edits, *Click* Apply to incorporate changes (the window remains open).

To close the window, *Click* Close (doesn't save changes - use Apply prior to close to incorporate changes).

Summary Section Settings Window - Use this selection to modify existing product generation settings (prologue, summary text) for the river forecast groups.

Example summary text section (default selected for all groups)



Select Prologue for Summary Section

Prologues applied only for Flood Statements and Flood Warnings - Prologue consists of 'This Product includes the following rivers <list of rivers>' The Prologue screen includes phrases which are NOT specific to a given forecast group.

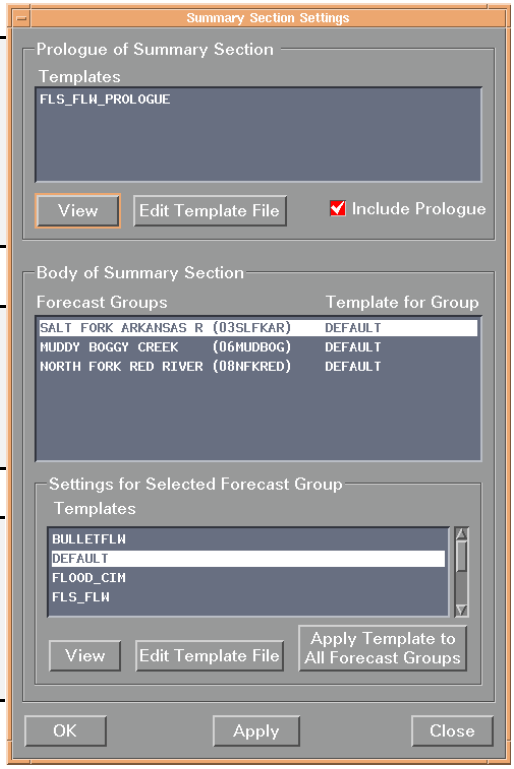
Select River Forecast Group to apply selected template

The body includes phrases for each forecast group included in the product.

Select template to apply to selected River Forecast Groups

Default template will be applied regardless of current hydrologic condition

Other templates will be applied if current hydrologic conditions warrant otherwise no summary text will appear in the product

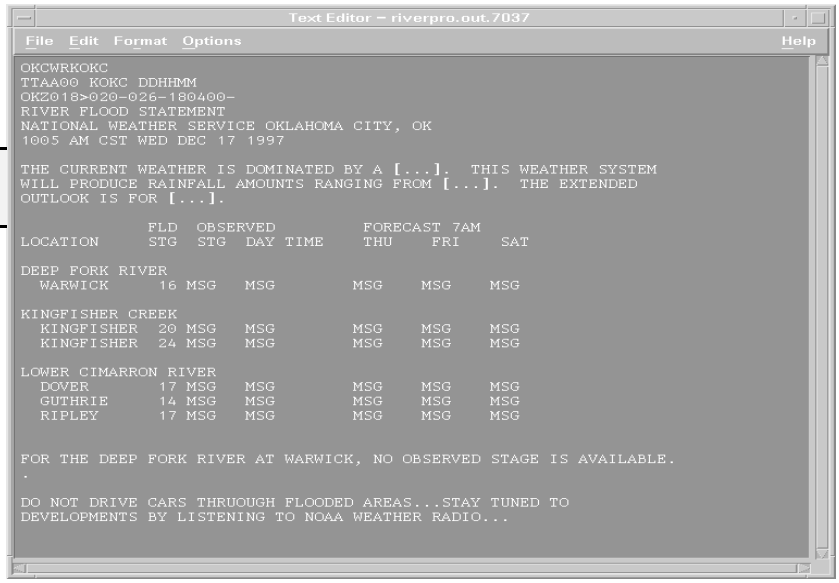


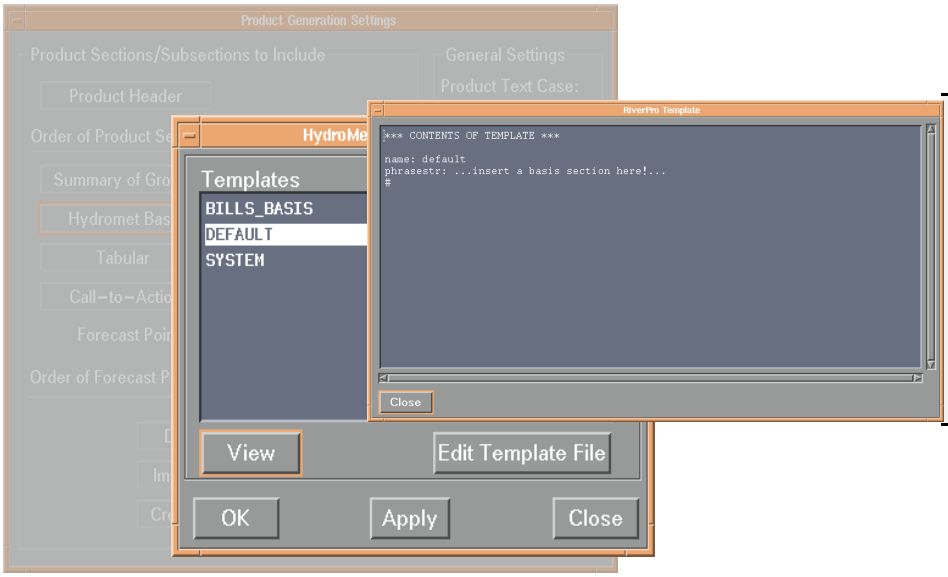
Access this selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections, Summary of Groups.**

Notes: **A**n example product is shown at the top, the Summary Section Window at the bottom. **A**fter making any edits, *Click* OK to incorporate changes and close window, *Click* Apply to incorporate changes and keep the window open. **A**ll templates are read-only except in Edit Template File mode.

Hydromet Basis Section Settings Window - Use this selection to modify existing product generation settings for the basis section of the product.

Example basis section (system template)
Default is '...insert basis section here!!!'





Hydromet Basis Section settings modifications are limited to template selection

Select Default template (shown in the window on the left) or System (shown in the above example)

Templates may be edited using the Edit Template File option

Access this selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections**, **Hydromet Basis**.

Notes:

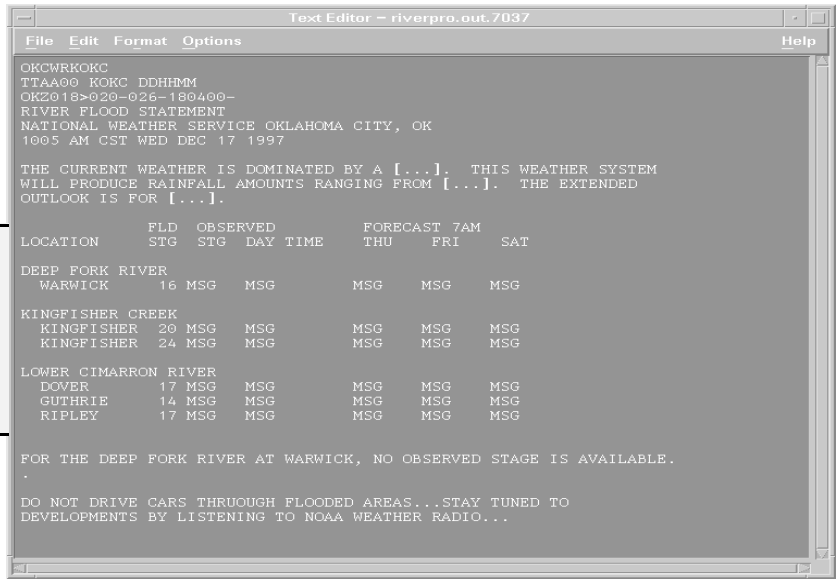
An example product is shown at the top, the Hydromet Basis Section Window at the bottom.

After making any edits, *Click* OK to incorporate changes and close window, *Click* Apply to incorporate changes and keep the window open.

All templates are read-only except in Edit Template File mode.

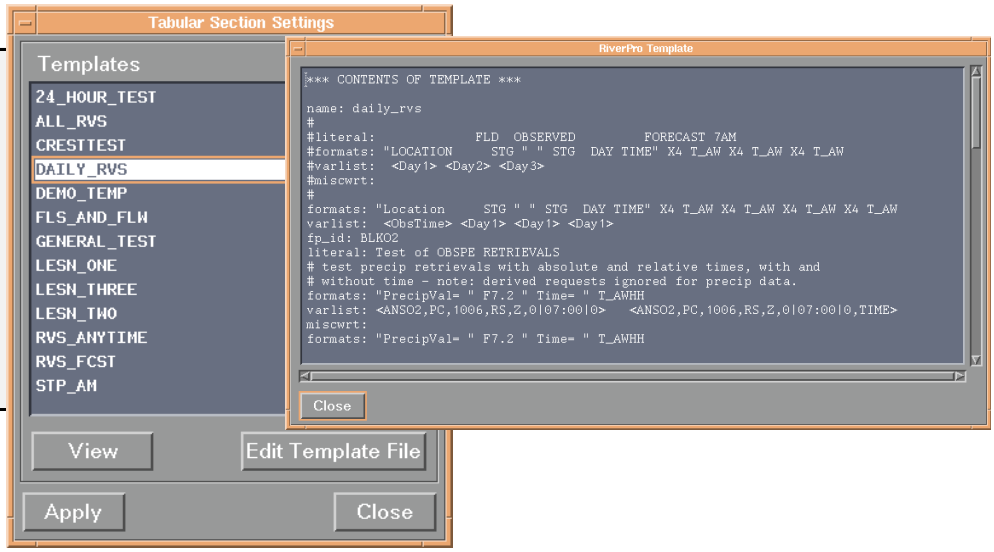
Tabular Section Settings Window - Use this selection to modify existing product generation settings for the tabular section of the product.

Example Tabular section (FLS and FLW template)



View templates (daily RVS shown)

Templates used are based on product selected

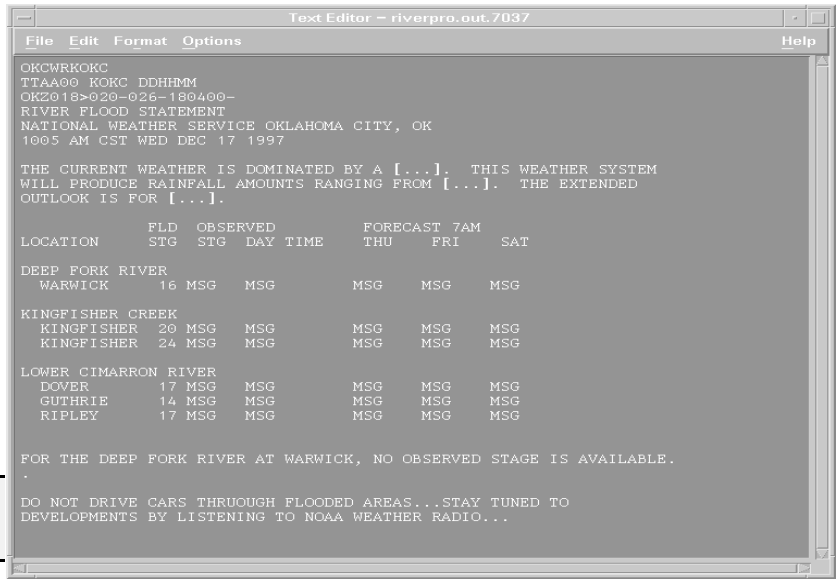


Access this selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections**, **Tabular**.

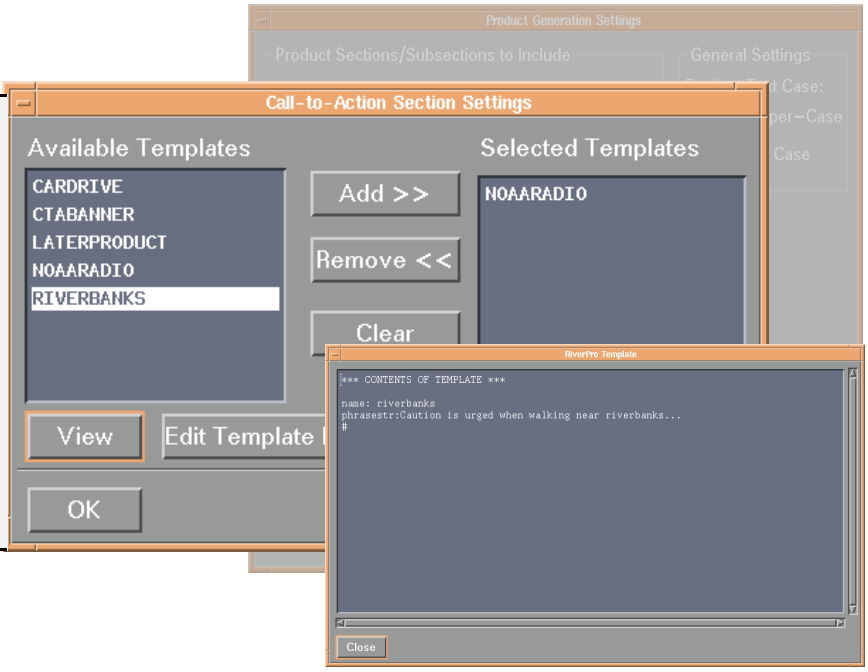
Notes:

An example product is shown at the top, the Tabular Window at the bottom.
After making any edits, *Click* Apply to incorporate changes (the window stays open). *Click* Close to close the window (doesn't save changes - use Apply prior to Close to keep the changes).
All templates are read-only except in Edit Template File mode.
Forecast points to include in the tabular section are selected in the Select Locations to Include Window.

Call-to-Action Section Settings Window - Use this selection to modify existing product generation settings for the Call-to-Action section of the product.



Example Call-to-Action text (CARDRIVE and NOAARADIO templates)



Call-to-Action settings limited to template selection and editing

Highlighted templates can be viewed or edited

Use Add>> or Remove<< to select or deselect templates to be displayed in the product. Use Clear to remove all Selected Templates

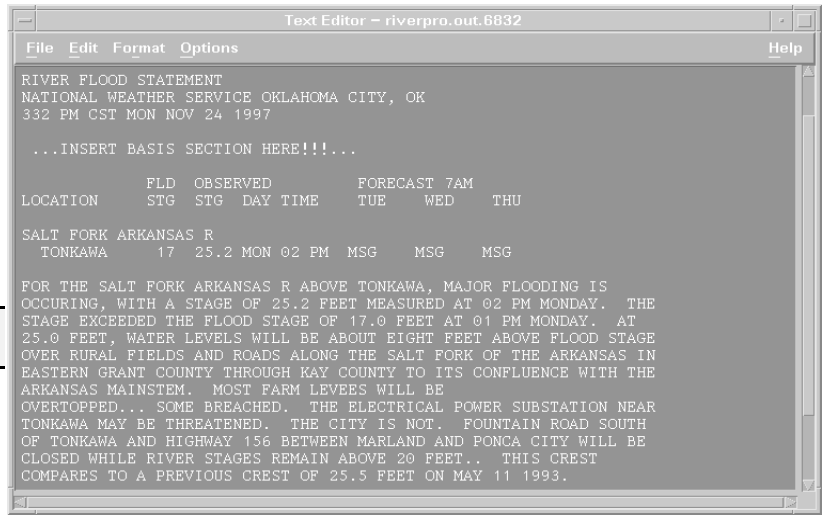
View and Edit Template File display and edit items in the Available Templates list only

RIVERBANKS template shown to the right

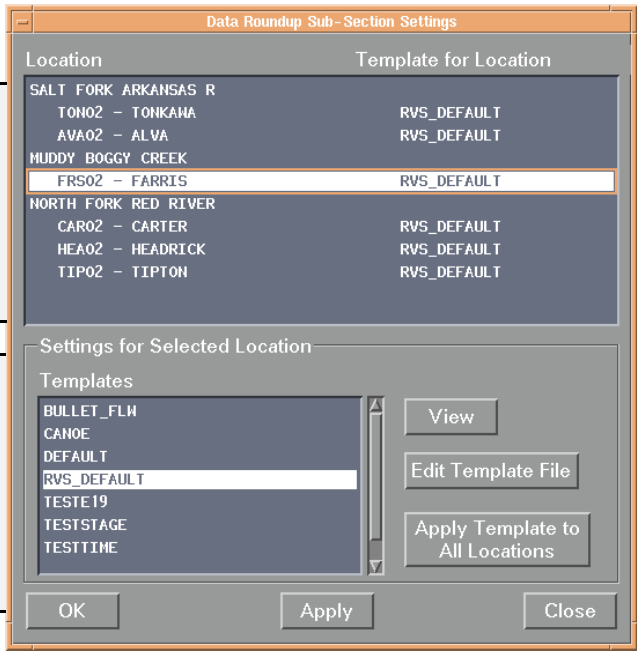
Access this selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections, Call-to-Action.**

Notes: **A**n example product is shown at the top, the Call-to-Action Window at the bottom. This section is unique in that more than one template can be used.
A maximum of 5 templates can be included in the Call-to-Action section.
After making any edits, *Click* OK to incorporate changes and close window, *Click* Apply to incorporate changes and keep the window open.
All templates are read-only except in Edit Template mode.

Data Roundup Subsection Settings Window - Use this selection to modify existing product generation settings for the Data Roundup subsection (part of Forecast Point Info) of the product.



Example Data Roundup Text



List of River Forecast Points selected in Client Window

Settings for each point are selected in the window below

Select templates to use for each River Forecast Point either individually or for all points simultaneously

The default templates are a series of different text messages that are triggered by current observations or forecasts

The text of templates can be viewed or edited by *Clicking* View or Edit Template File

Access the Data Roundup Subsection Settings selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections, Forecast Point Info**, **Data Roundup**.

Notes: **A**n example product is shown at the top, the Data Roundup Window at the bottom. After making any edits, *Click* OK to incorporate changes and close window, *Click* Apply to incorporate changes and keep the window open.
All templates are read-only except in Edit Template File mode.

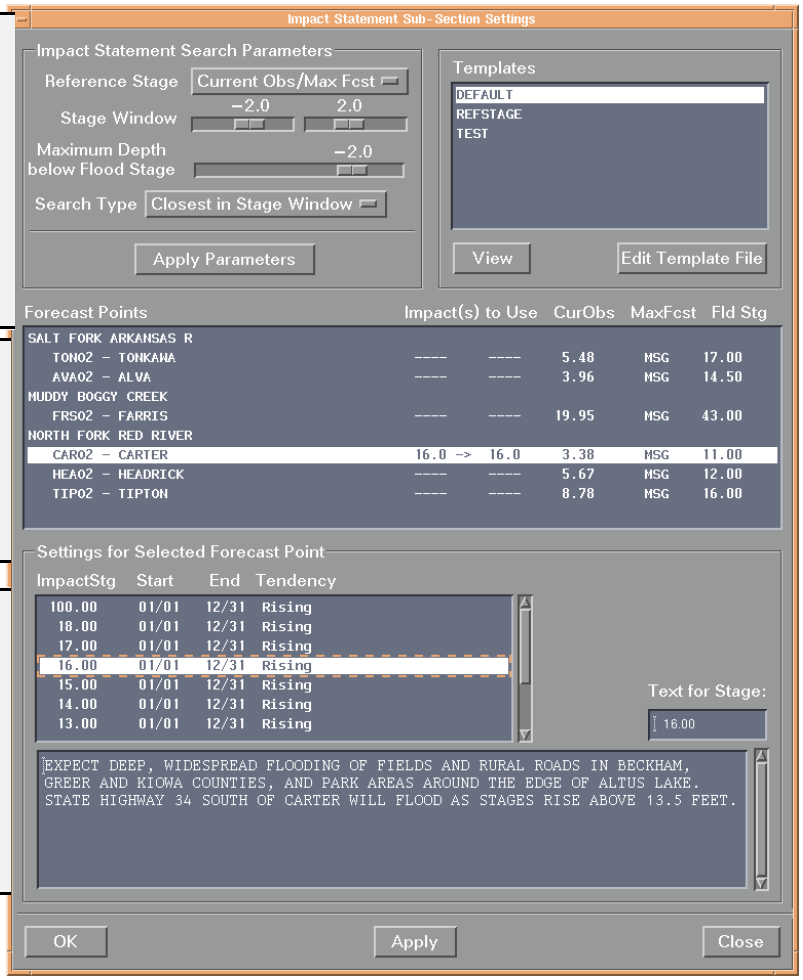
Impact Statement Subsection Settings Window - Use this selection to modify existing product generation settings for the Impact Statement sub-section (part of Forecast Point Info) of the product. The window is used to define the criteria for the selection of impact statements used in the selected product.

Use Impact Statement Search Parameters to adjust the criteria by which RiverPro selects the forecast points and corresponding impact statements used in the product. Set Reference Stage, Stage Window and Maximum Depth below Flood Stage (both define the reference stage range to be considered), and Search Type (selects statement applicable to a stage closest to the reference stage and in the stage window or for the highest stage in the window). All criteria must be met to trigger a forecast point.

List of River Forecast Points selected in the **Select forecast points to include** Window - Selected points for impact statements will be flagged by displaying data in the Impact(s) to Use column. Settings can also be selected manually by clicking on the point identifier. Settings can be de-selected using the Include Forecast Point option below.

Select impact stage or range of stages for the currently highlighted forecast point.

View the impact statement to be included in the product (read-only). Only one impact statement is recommended for each River Forecast Point based on the parameters selected, although a range can be manually selected by the user.



Access this selection from the **Root Window** by *Clicking* on **Settings, Modify product sections, Forecast Point Info, Impact Statement**.

Notes:

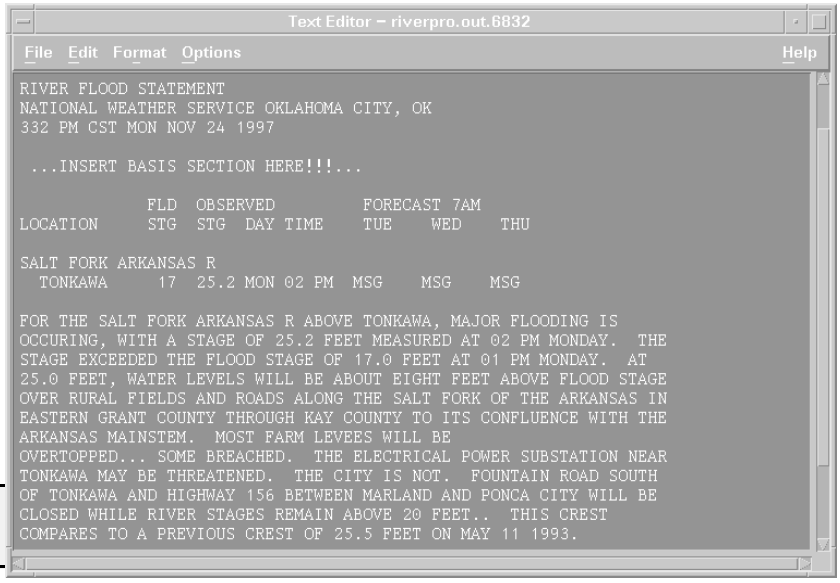
If there are no impact statements for a forecast point for a selected set of search parameters, then that forecast point will not be flagged in the Forecast Point window.

After making any edits, *Click* OK to incorporate changes and close window, *Click* Apply to incorporate changes and keep the window open.

All templates are read-only except in Edit Template File mode.

Crest Comparison Subsection Settings Window - Use this selection to modify existing product generation settings for the Crest Comparison sub-section (part of the Forecast Point Info) of the product. The window is used to define the criteria for the selection of crest comparison statements used in the selected product.

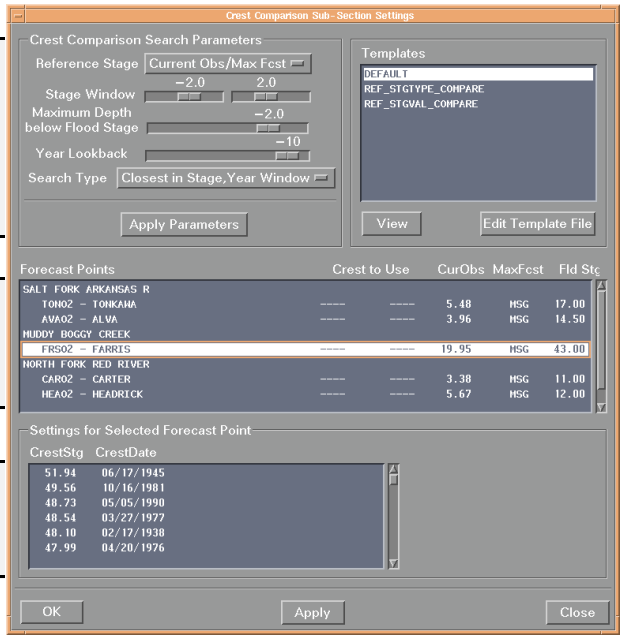
Example Crest Comparison (last sentence)



Use Crest Comparison Search Parameters to adjust the criteria by which RiverPro selects the forecast points and corresponding crest comparison statements used in the product. Set Reference Stage, Stage Window, Maximum Depth below Flood Stage and Year Lookback (the last three define the reference stage range to be considered) and Search Type (pull down menu shown). The Search Type options are self-explanatory.

List of River Forecast Points selected in the **Select forecast points to include** Window - selected points for crest comparison statements are highlighted. Settings can also be selected manually by clicking on the point identifier.

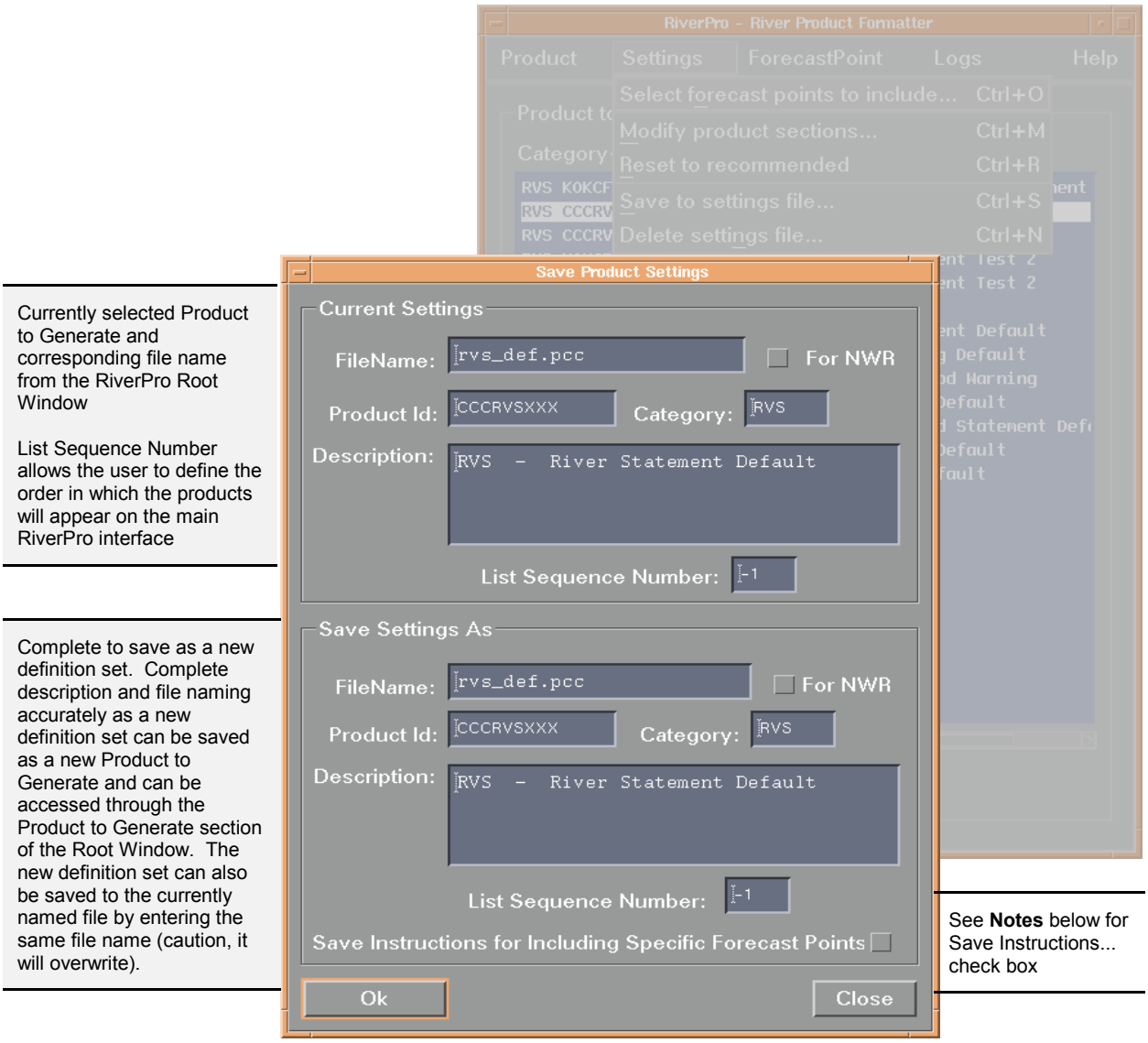
List of historical crests in the time period selected in the Year Lookback search parameter.



Access this selection from the **Root Window** by *Clicking* on **Settings**, **Modify product sections, Forecast Point Info, Crest Comparison.**

Notes: **A**n example product is shown at the top, the Crest Comparison Window at the bottom. After making any edits, *Click* OK to incorporate changes and close window, *Click* Apply to incorporate changes and keep the window open.
All templates are read-only except in Edit Template File mode.

Save Product Settings Window - Use this selection to save a new product section/subsection definitions set for future use. Use after modifying section(s) and/or subsection(s) for a product.



Currently selected Product to Generate and corresponding file name from the RiverPro Root Window

List Sequence Number allows the user to define the order in which the products will appear on the main RiverPro interface

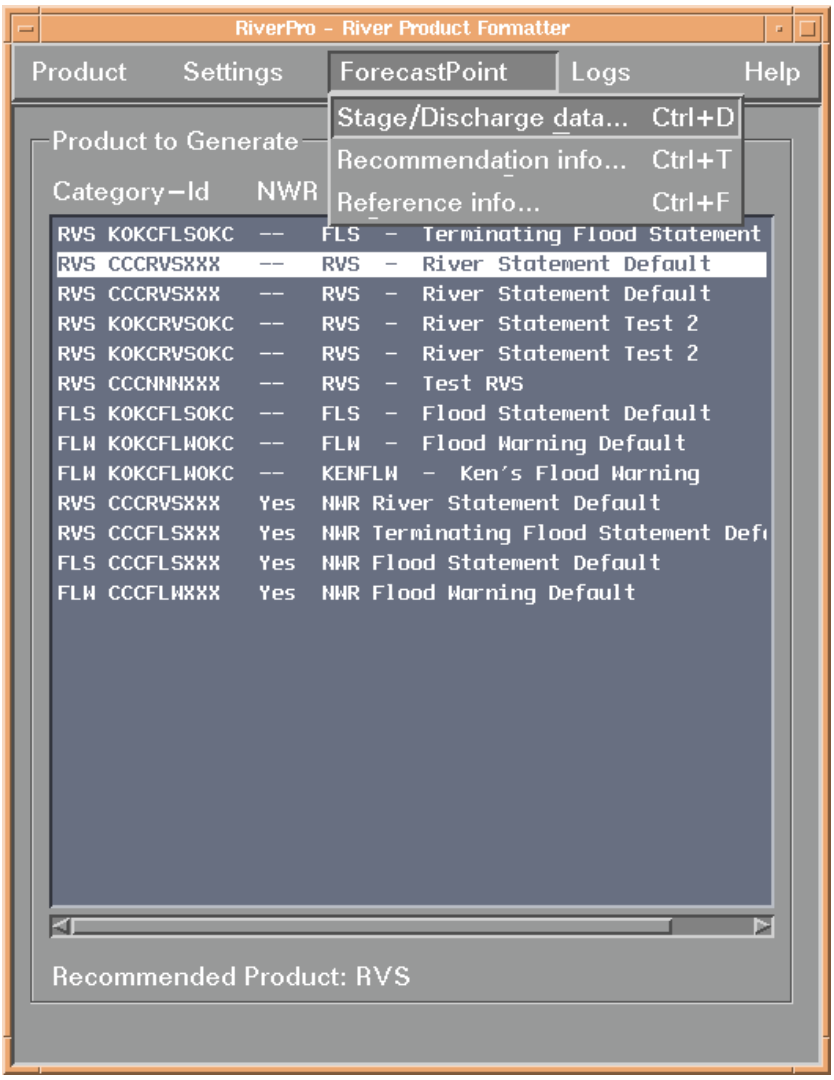
Complete to save as a new definition set. Complete description and file naming accurately as a new definition set can be saved as a new Product to Generate and can be accessed through the Product to Generate section of the Root Window. The new definition set can also be saved to the currently named file by entering the same file name (caution, it will overwrite).

See **Notes** below for Save Instructions... check box

Access this selection from the **Root Window** by *Clicking* on **Settings**, **Save to Settings File.**

Notes:
The file name should always begin with the product name (e.g., RVS) and end with .pcc.
If a previously chosen file name is entered and OK is selected, a confirmation window will ask if the file is to be overwritten.
Checking the Save Instructions for Including Specific Forecast Points box allows the user to always include the same subset of forecast points in the product, by highlighting those points in the forecast point list. When saving the product settings with the box checked, those forecast points become part of the product definition.

RiverPro Root Window (ForecastPoint selected from the Menu Bar) - Use this selection to view stage and product reference data and information.



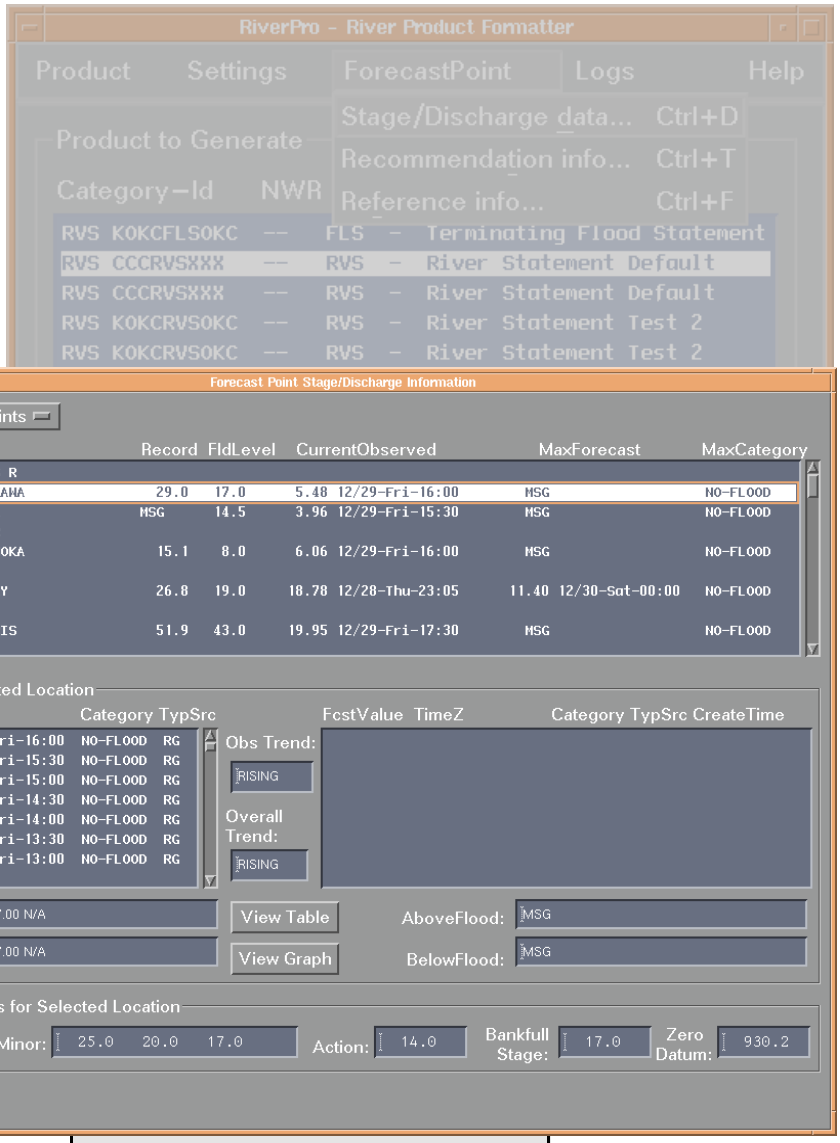
Notes:

Use **Stage/Discharge Data** to display observed, forecast, and threshold (E-19) stages for selected points.

Use **Recommendation Info** to display recommended products for forecast points, review RiverPro recommendation rationale, update recommendations, clear a Terminating FLS, and display previously issued products for a selected point.

Use **Reference Info** to display data and information from the E-19 data base for a selected point.

Stage/Discharge Information Window - Use this selection to view current observed, forecast, and threshold (E-19) stage data for a selected point.



Select **All Points** or **Included Points** (those forecast points recommended by RiverPro or manually selected in the **Select forecast points to include** Window)

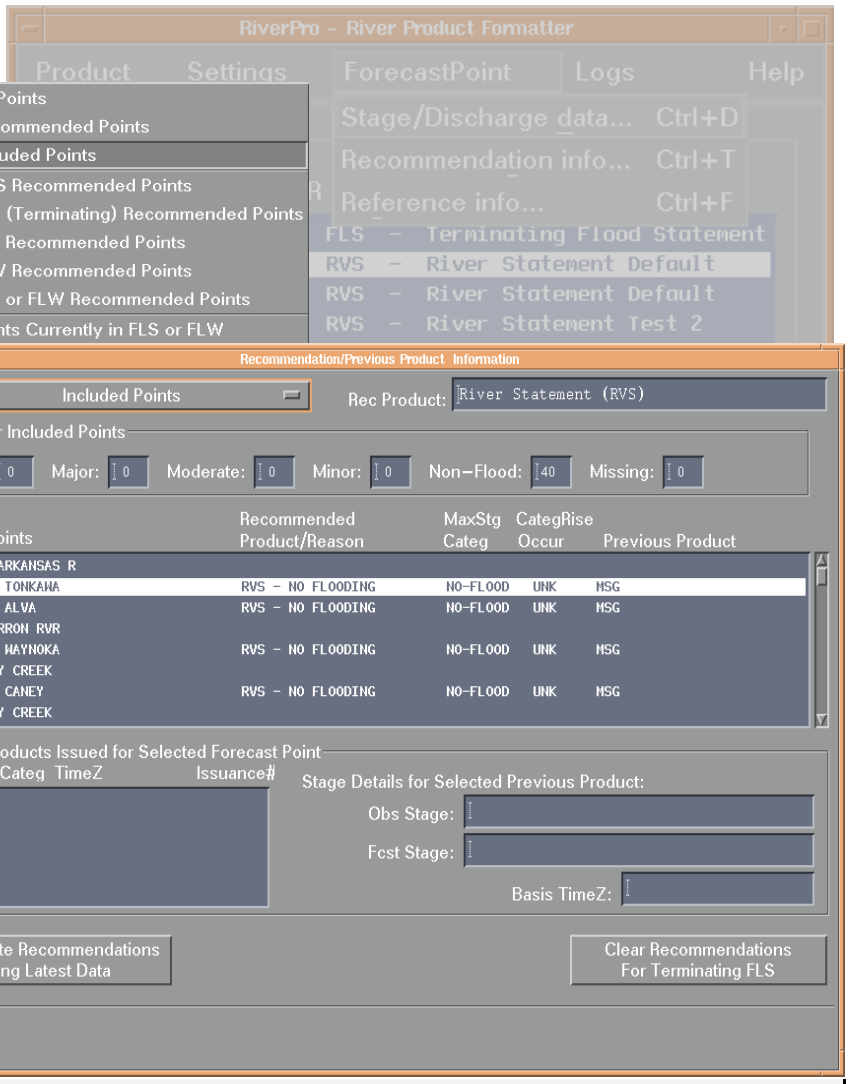
Click on a forecast point to display data below

Use View Table or View Graph to launch the time series display (graphic or tabular, respectively)

Access this selection from the **Root Window** by *Clicking* on **ForecastPoint, Stage/Discharge data.**

Notes: This display is read-only.

Recommendation/Previous Product Information Window - Use this selection to view RiverPro recommended products, recommendation rationale, update recommendations, list previous products, and clear terminating flood statements.



Select river forecast points to list. The list can be filtered as shown in the pull-down screen above. Included points are those selected manually in the Select Locations to Include Window. The **Recommended Product/Reason** column provides the rationale for the RiverPro recommendations.

Columns are also provided for the maximum stage category for the forecast point, the previously issued product and an indicator on whether a categorical rise has occurred since the previous product was issued. These three values are used to determine the recommended product and the reason for the selection.

The counts section displays a count of the number of Included forecast points for the flood categories.

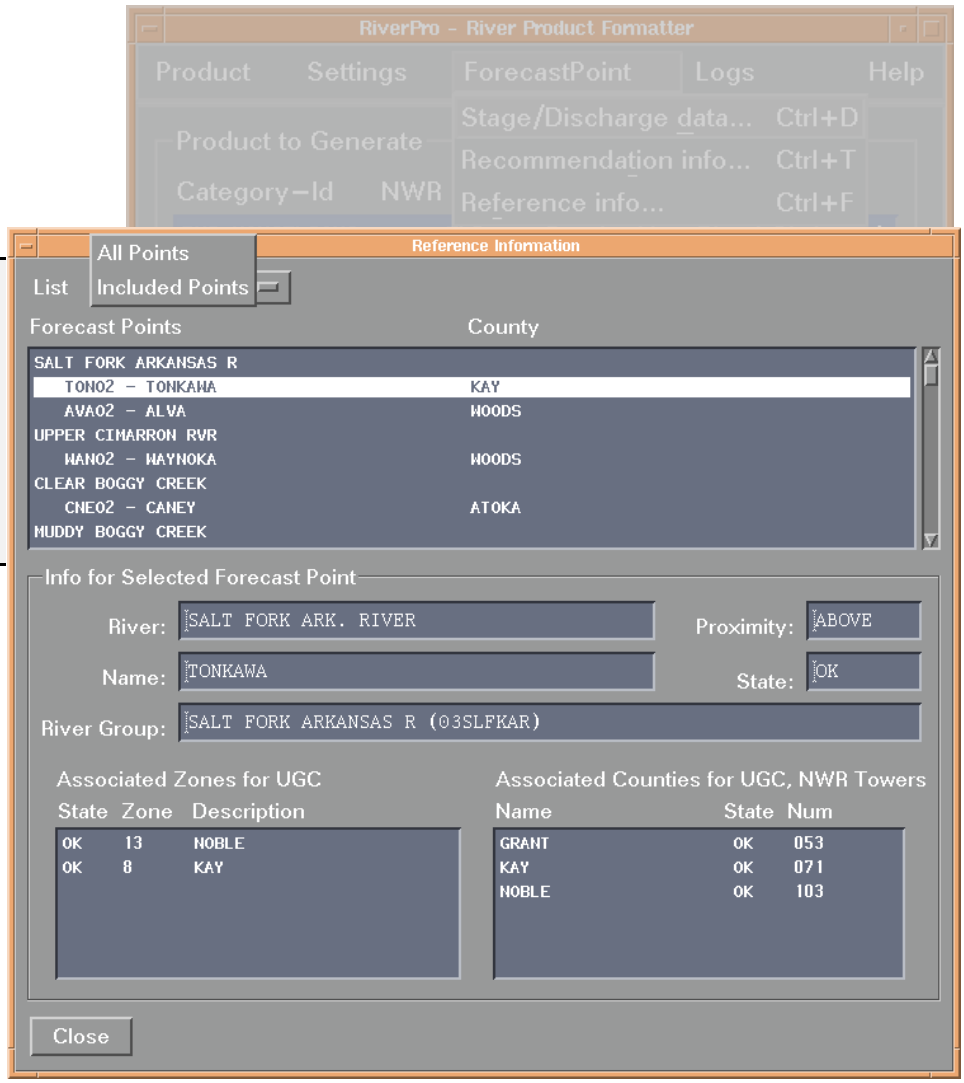
The Recommended Product and list of previous products are displayed for the highlighted forecast point. The RiverPro recommendations can be refreshed using the left **Recompute...** button. The right **Clear...** button clears the recommendations for terminating flood statements. The **Recompute...** button loads the latest data and recomputes the recommendations, which is needed to load data that has arrived since the program was started.

Access this selection from the **Root Window** by *Clicking* on **ForecastPoint, Recommendation info.**

Notes: This display is read-only.

Reference Information Window - Use this selection to view the static E-19 data for each forecast point.

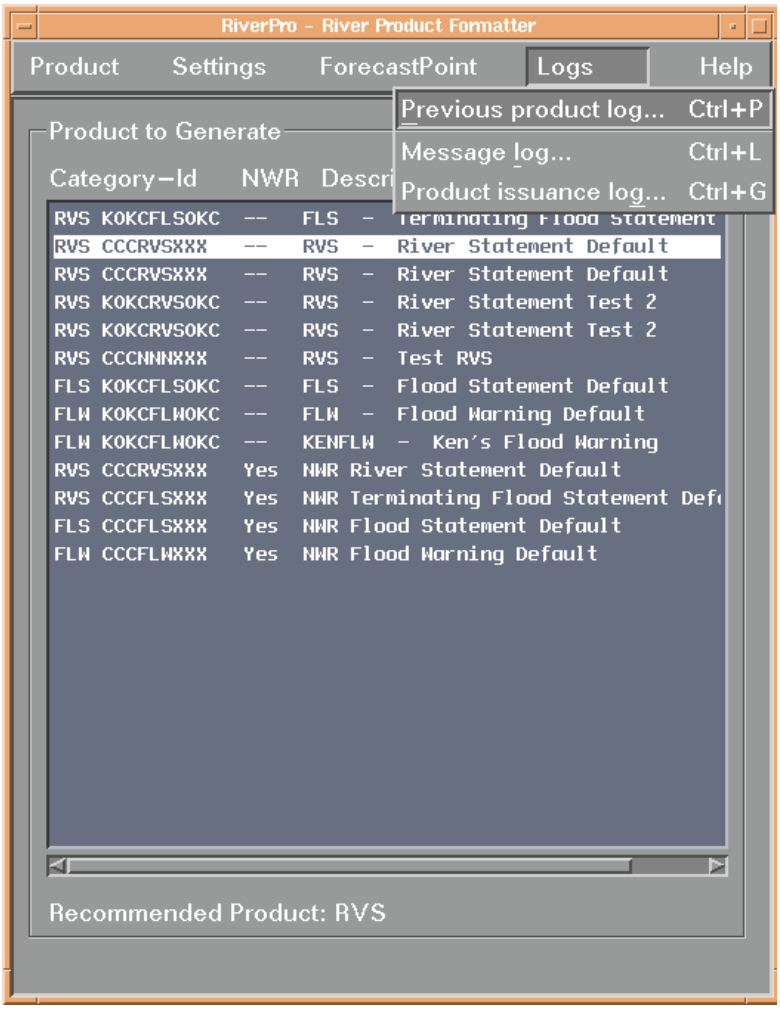
Select river forecast points to list. List can be filtered using pull-down menu. *Clicking* on a given forecast point will display more detailed information below, including zones, states and counties and NOAA Weather Radio Towers associated with the forecast point.



Access this selection from the **Root Window** by *Clicking* on **ForecastPoint, Reference info.**

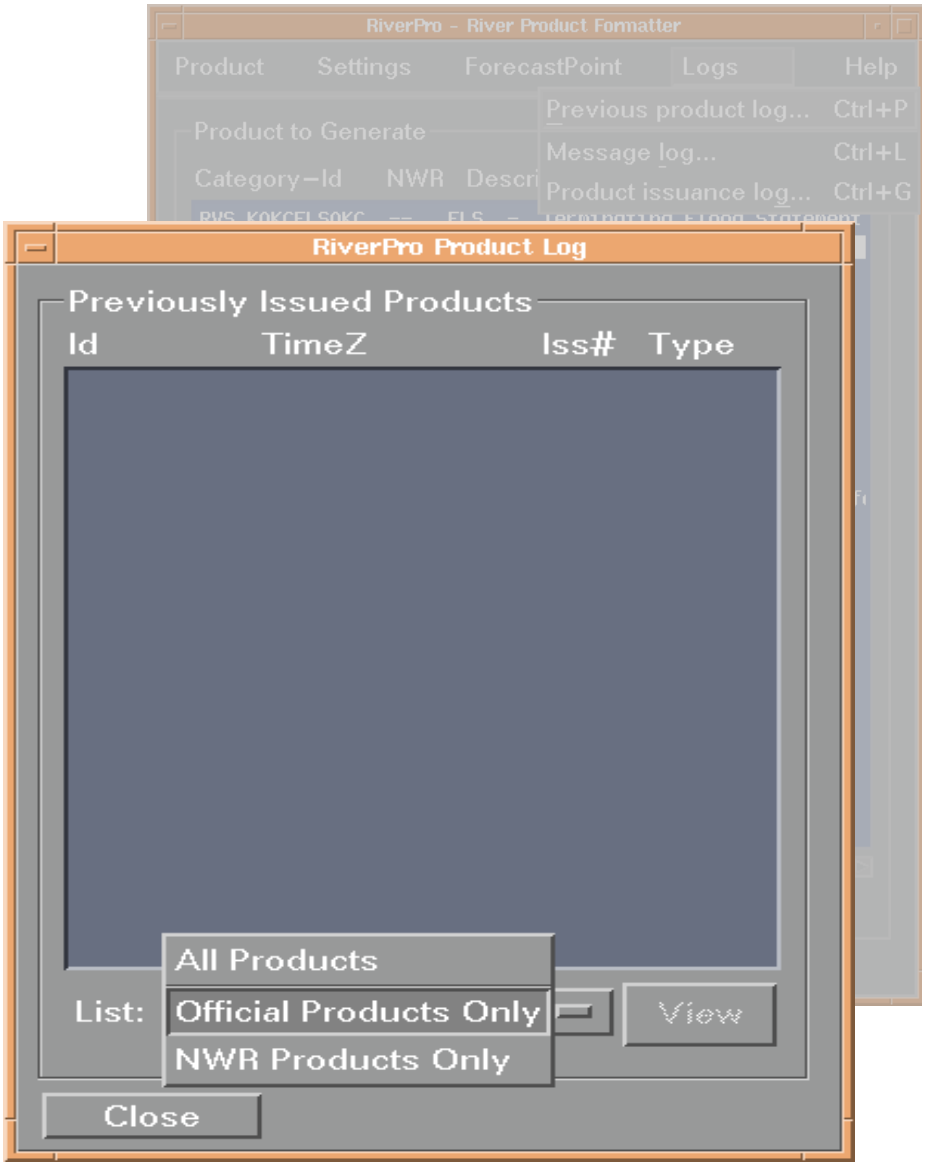
Notes: This display is read-only.

RiverPro Root Window (Logs selected from the Menu Bar) - Use this selection to view product, message, and product issuance logs generated by RiverPro.



Access this selection from the **Root Window** by *Clicking* on **Logs.**

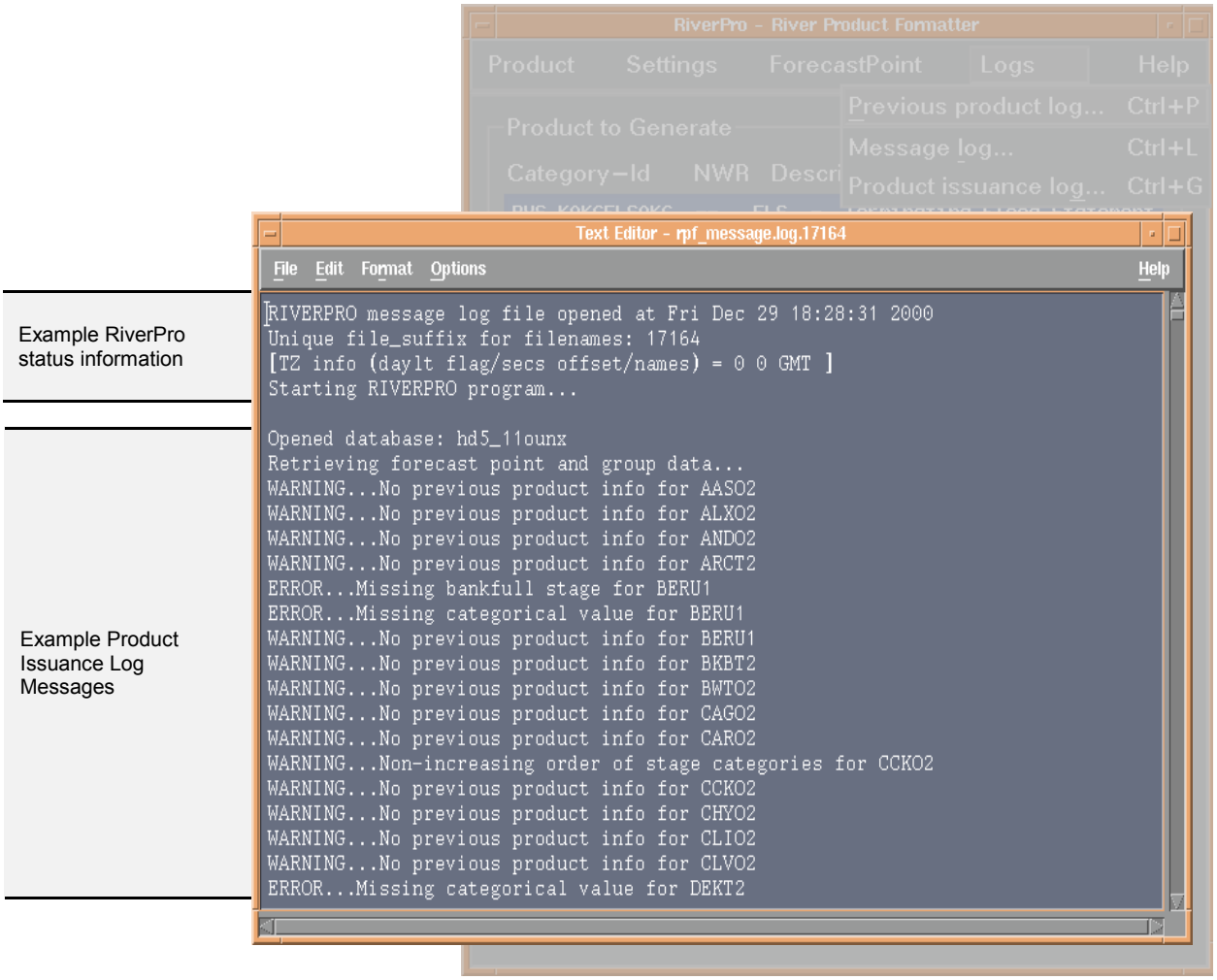
RiverPro Product Log Window - Use this selection to view a listing of previously-issued products generated by RiverPro.



Access this selection from the **Root Window** by *Clicking* on **Logs, Previous product log.**

Notes: This display is read-only.

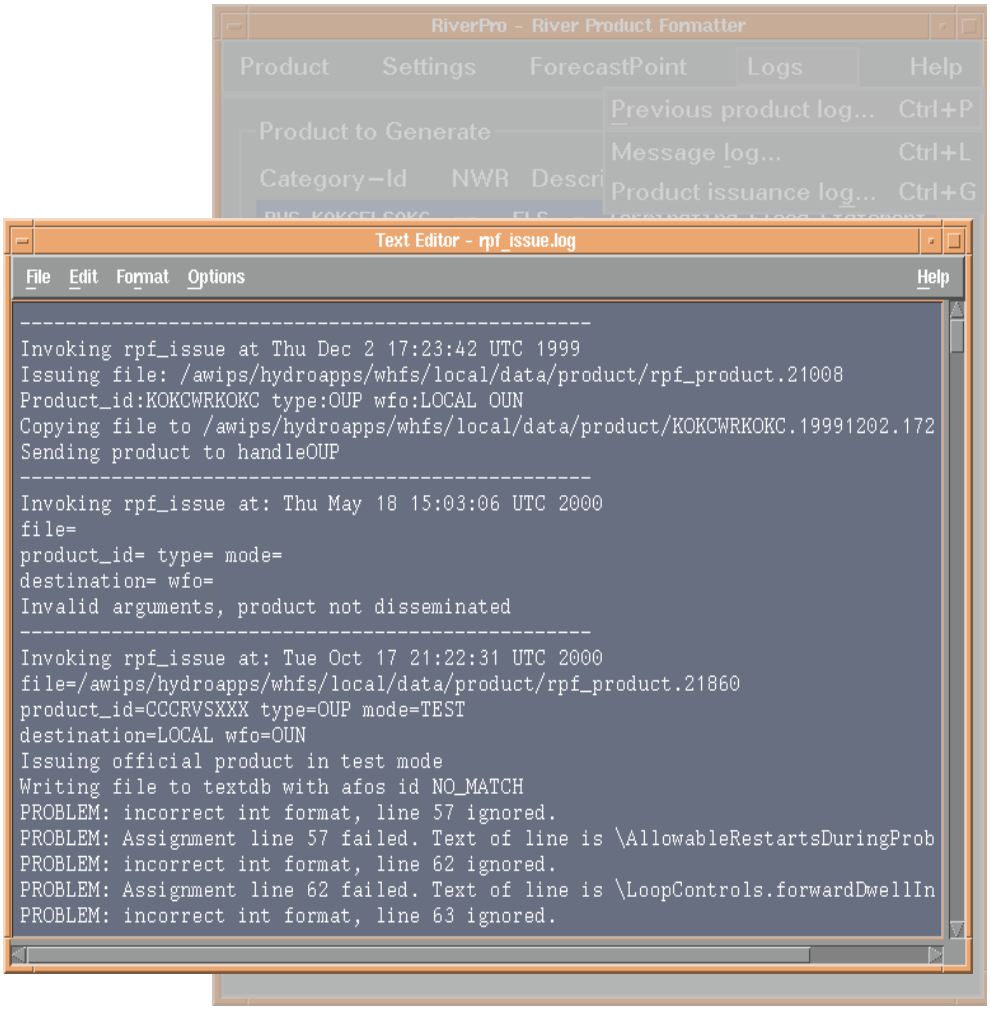
Message Log Window - Use this selection to view the general status information (indicating specific steps of the current RiverPro execution) as well as messages in the **Product Issuance Log** (following window).



Access this selection from the **Root Window** by *Clicking* on **Logs, Message log.**

Notes: **T**his display is read-only.
The log file being displayed is shown above the menu bar.

Product Issuance Log Window - Use this selection to view the messages generated during attempts to issue products including warning messages that indicate possible detrimental conditions (i.e., warnings), definite detrimental conditions (i.e., errors) and unrecoverable (fatal) errors.



Sample product issuance error, warning, and informational messages

Access this selection from the **Root Window** by *Clicking* on **Logs, Product issuance log.**

Notes:

This display is read-only.

The log information displayed in this window can be extremely helpful in identifying problems and their causes.

The log file being displayed is shown above the menu bar.

The RiverPro Operations Guide provided below is designed to provide the user with a quick reference summary of the primary features of RiverPro and how to access them. The RiverPro Functional Guide which follows the Operational Guide provides more details on the procedures to perform various functions in RiverPro.

RiverPro Operations Guide

Operation	Window to Use	Getting to the Window
Create a New Product (RiverPro Recommended Product)	Text Editor	Start - **Root Window** Select - **Product** (Menu Bar) Select - **Create** The current RiverPro recommended product will be displayed. The product can be edited as needed.
Create a New Product for User-defined Product and Groups/Forecast Points	Text Editor	Start - **Root Window** Select - **Settings** (Menu Bar) Select - **Select forecast points to include** Select - **Clear** (clears RiverPro recommended forecast points) Click - Groups/Forecast Points to include in the product from the Forecast Groups/Points for RVS, FLS, FLW section of the window Click - Close to return to the **Root Window** Click - Product type to issue from the Product to Generate section of the **Root Window** (Continued on the next page)

RiverPro Operations Guide

Operation	Window to Use	Getting to the Window
Create a New Product for User-defined Product and Groups/Forecast Points (con't)	Text Editor	Select - **Product** (Menu Bar) Select - **Create** The selected product will be displayed. Edit as necessary and exit from the editor. The product is now available to issue or re-edit and issue.
Issue the Most Recently Created Product	Product Issue Confirmation Window	Start - **Root Window** Select - **Product** (Menu Bar) Select - **Issue** The Product Issue Confirmation Window will be displayed. Select OK to issue the most recently created product. Select CANCEL to close the window without issuing the product.
Test the Issuance of the Most Recently Created Product	Product Issue Test Mode Confirmation Window	Start - **Root Window** Select - **Product** (Menu Bar) Select - **Issue Test** The Product Issue TEST Mode Confirmation Window will be displayed. Select OK to issue the most recently created product to the test database. Select CANCEL to close the window without issuing the product to the test database.

RiverPro Operations Guide

Operation	Window to Use	Getting to the Window
Issue a Previously Edited and Saved Product	Text Editor	Edit a previous product (or create a new product) and save the product (remember the saved file name and directory to where it was saved). (Call this File XX) Start - **Root Window** Select - **Product** (Menu Bar) Select - **Create** Displayed will be the most recently created product (File YY). Delete the entire text of the product (File YY). Using the **Include** command in the text editor, replace the text with the previously saved, edited file (File XX). Use the **Save** command in the text editor. The file will now be saved with the same identifier as the most recently created product (File YY). This is necessary to be able to issue the edited file (File XX). In other words, File XX must be given the identity of the most recently created file (File YY) in order to issue it. Exit the text editor. Select - **Product** (Menu Bar) Select - **Issue** or **Issue Test** Follow the dialogue box prompts to issue the file.

RiverPro Operations Guide

Operation	Window to Use	Getting to the Window
Modify Product Generation Settings (product section/subsection format and content)	Settings Window (Modify Initial Screen)	Start - **Root Window** Select - **Settings** (Menu Bar) Select - **Modify product sections** Click - Setting(s) of choice to modify (see RiverPro Functional Guide and RiverPro Settings Option - Modify section)
Save Modified Product Generation Settings (section/subsection format)	Save Product Settings Window	After making any required modifications to section/subsection settings *click* Apply then Close to return to the **RiverPro Root Window**. Select - **Settings** (Menu Bar) Select - **Save to settings file** The **Save Product Settings Window** will be displayed.
View Various Supporting Data and Information (Stage/Discharge Data, Recommendation Info, Previous Products Issued, Form E-19 Info)	Stage/Discharge Information Window Recommendation/Previous Product Information Window Reference Information Window	Start - **Root Window** Select - **ForecastPoint** (Menu Bar) Select - Data or information of choice to view
View RiverPro Message Log	Message Log Window	Start - **Root Window** Select - **Logs** (Menu Bar) Select - **Message log**
View RiverPro Product Issuance Log	Product Issuance Log Window	Start - **Root Window** Select - **Logs** (Menu Bar) Select - **Product issuance log**

RiverPro Operations Guide

Operation	Window to Use	Getting to the Window
Exit RiverPro	RiverPro Root Window	Start - **Root Window** Select - **Product** (Menu Bar) Select - **Exit**

The following RiverPro Functional Guide provides examples of various functions which can be performed in RiverPro. This guide can be used as an application tool to exercise some of the more pertinent RiverPro capabilities.

RiverPro Functional Guide

Function	Window to Use	Procedure
Creating, Editing and Issuing a RiverPro Recommended Product Using Default Product Generation Settings (default section/subsection settings)	Text Editor Product Issue Confirmation Window	Start - **Root Window** The product to issue will be displayed in the **Root Window**. Select - **Settings** (Menu Bar) Select - **Forecast points to include** The forecast points to include will be highlighted in the **Select Forecast Points to Include Window**. Click - Close to return to the **Root Window** Select - **Product** (Menu Bar) Select - **Create** The product to be issued will be displayed in the **Text Editor**. Edit, if needed, including the addition of the Hydromet Basis section for an FLS or FLW. To issue the edited product, it must be saved first. Exit from the **Text Editor** - Click on **File** in the **Text Editor Menu Bar**, then on **Close**. (Return to the **Root Window**) Select - **Product** (Menu Bar) Select - **Issue** Click OK in the **Product Issue Confirmation Window** to issue.

RiverPro Functional Guide

Function	Window to Use	Procedure
Viewing the Most Recently Created Product	Text Editor	Start - **Root Window** Select - **Product** (Menu Bar) Select - **Edit** The most recently created product will be displayed. To exit, Click on **File** in the **Text Editor Menu Bar**, then on **Close**.
Creating and Editing a RiverPro Recommended Product Using Modified Product Generation Settings	Product Generation Settings Window Text Editor	Start - **Root Window** The product to issue will be displayed in the **Root Window**. Select - **Settings** (Menu Bar) Select - **Forecast points to include** The forecast points to include will be highlighted in the **Select Forecast Points to Include Window**. Click - Close to return to the **Root Window** Select - **Settings** (Menu Bar) Select - **Modify product sections** (Continued on the next page)

RiverPro Functional Guide

Function	Window to Use	Procedure
Creating and Editing a RiverPro Recommended Product Using Modified Product Generation Settings (con't)	Product Generation Settings Window Text Editor	The **Product Generation Settings Window** will be displayed. Click on product section or subsection to modify. Modify section and/or subsection following the procedures for the selected window. Toggle 1st, 2nd, 3rd .... buttons to include or exclude a section or subsection or to re-arrange their order in the product. After making any modifications, Click OK (or Apply then Close if OK is not available) in the section or subsection window (Returns to the **Product Generation Settings Window**) Click Apply, then click Close (Return to **Root Window**) Select - **Product** (Menu Bar) Select - **Create** The product can now be edited and will be displayed in the **Text Editor**. Edit, if needed, including the addition of the Hydromet Basis section for an FLS or FLW. An edited product must be saved in order to be issued. Exit from the **Text Editor** - Click on **File** in the **Text Editor Menu Bar**, then on **Close**. (Return to the **Root Window**)

RiverPro Functional Guide

Function	Window to Use	Procedure
Creating an RVS - River Statement Default for User-Specified River Groups and Forecast Points	Text Editor	Start - **Root Window** Click - **RVS - River Statement Default** in the Product to Generate section of the **Root Window** Select - **Settings** (Menu Bar) Select - **Forecast points to include** Click - Desired river groups or forecast points to include. Click - Close to return to the **Root Window** Select - **Product** (Menu Bar) Select - **Create** The product can now be edited and will be displayed in the **Text Editor** . Edit, if needed, including the addition of the Hydromet Basis section for an FLS or FLW. An edited product must be saved in order to be issued. Exit from the **Text Editor** - Click on **File** in the **Text Editor Menu Bar**, then on **Close**. (Return to the **Root Window**)

RiverPro Functional Guide

Function	Window to Use	Procedure
Creating a New RiverPro Product Using Modified Product Generation Settings and Saving the New Product for Future Use	Product Generation Settings Window Text Editor Save Product Settings Window	Start - **Root Window** The suggested product to issue will be highlighted in the Product to Generate section of the **Root Window**. (Note: The forecast points to include will be highlighted in the **Settings/Select Forecast Points to Include Window**.) Select - **Settings** (Menu Bar) Select - **Modify product sections** The **Product Generation Settings Window** will be displayed. Click on product section or subsection to modify. Modify section and/or subsection following the procedures for the selected window. Toggle 1st, 2nd, 3rd .... buttons to include or exclude a section or subsection or to re-arrange their order in the product. After making any modifications, Click OK (or Apply then Close if OK is not available) in the section or subsection window (Returns to the **Product Generation Settings Window**) Click Apply, then click Close (Return to **Root Window**) Select - **Settings** (Menu Bar) Select - **Save to settings file** The **Save Product Settings Window** will be displayed. (Continued on the next page.)

RiverPro Functional Guide

Function	Window to Use	Procedure
Creating a New RiverPro Product Using Modified Product Generation Settings and Saving the New Product for Future Use (con't)	Product Generation Settings Window Text Editor Save Product Settings Window	Type in a new file name in the Save Settings As section of the **Save Product Settings Window** (file name should have a .pcc extension and start with the abbreviation of the product name, e.g., RVS). Type in a description (the description must begin with the product identifier, e.g., RVS, FLS, FLW). Update the List Sequence Number if this product is an iteration of another product with the same Product Id. Determine whether to have the instructions for including forecast points saved as part of the product and toggle the Save Instructions for including Specific Forecast Points button if so desired. Click OK to save the new product. Product description will appear in the Product to Generate section of the **RiverPro Root Window**.
Change Product Expiration Date and Time and Issuance Number (displayed in product header)	Product Header Settings Window	Start - **Root Window** Select - **Settings** Select - **Modify sections** Click on **Product Header**. **Product Header Settings Window** will be displayed. Modify Expiration Date, TimeZ, Issuance Number. Click on Apply to save the changes then click on Close to return to the **Product Generation Settings Window**.

RiverPro Functional Guide

Function	Window to Use	Procedure
Reset All Product Generation Settings to RiverPro Recommended Settings While in an Active RiverPro Session **(Note that this occurs automatically when exiting/entering RiverPro.)**	RiverPro Root Window	(Assuming modifications have been made to either products to generate, river forecast points to include and/or section/subsections included in the product) Start - **Root Window** Select - **Settings** Select - **Reset to recommended**
View RiverPro Recommendation Information	Recommendation/Previous Product Information Window	Start - **Root Window** Select - **ForecastPoint** Select - **Recommendation info** Click on pull down menu under **List** and then Click on recommendation type of choice. Selected list will appear in window.
Recompute RiverPro Recommendations Using Up-to-Date Data (may be necessary if logged in to RiverPro for an extended period of time)	Recommendation/Previous Product Information Window	Start - **Root Window** Select - **ForecastPoint** Select - **Recommendation info** Click - Recompute Recommendations Using Latest Data (lower left of window)

RiverPro Functional Guide

Function	Window to Use	Procedure
Clear Terminating Flood Statements (RiverPro may not necessarily do this automatically)	Recommendation/Previous Product Information Window	Start - **Root Window** Select - **ForecastPoint** Select - **Recommendation info** Click - Clear Recommendations for Terminating FLS (lower right of window) A **Clear FLT Recommendations** confirmation window will be displayed. Click OK to clear and reset Terminating FLS recommendations. Carryover information (i.e., information regarding any previous products such as stage information) is also modified.